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SCHOOL EFFICIENCY SERIES

High School Organization

SCHOOL EFFICIENCY SERIES

Edited by PAUL H. HANUS

High School Organization

A constructive study applied to New York City

Washington
By FRANK W. BALLOU

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EDITOR'S PREFACE

EVERY city high school ought to be so organized and administered as to enable its teachers and pupils to do their work under as favorable conditions as can be devised by thoughtful administrative and supervisory officers; and at the same time as economically as such conditions permit. In our large cities the problems thus presented by the organization and administration of the high schools require the constant attention of the supervisory staff—principals, heads of departments, and superintendents—and careful consideration of the progressive solution of these problems which the staff work out by the Board of Education and the financial authorities.

This volume contains Mr. Ballou's studies of certain problems of organization and administration presented by the high schools of New York City. With some omissions, plainly indicated in the text, the volume consists of Mr. Ballou's contribution to the Report submitted by me to the Committee on School Inquiry of the Board of Estimate and Apportionment of the City of New York. What is omitted includes only such matters as are of purely local importance; for example, the details involved in solving the problem of estimating the number of teachers needed in the enormous high schools of New York City are peculiar to those schools. No other city in the country presents so huge an aggregation of pupils in single schools, or so complicated an organization of its high school forces. Accordingly the details of the treatment of this problem are omitted from Mr. Ballou's report as republished in this volume. But all that is essential to an understanding of the method to be employed in estimating the number of teachers needed

for any large high school or system of high schools has been retained.

No attempt has been made in this volume to cover the whole field of the organization and administration of city high schools. It is restricted to the problems of organization and administration within the field of administrative control as exercised by the Board of Education and the supervisory staff.

Although restricted to this field, Mr. Ballou's report is comprehensive, and in its present form is offered to administrative officers outside of, as well as within, New York City, as a contribution to a method of studying certain important problems of organization and administration that must be dealt with by the supervisory staff and Board of Education in all city school systems.

PAUL H. HANUS.

HARVARD UNIVERSITY.

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Organization and Ad-
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with such revisions as have seemed
with a view to their general interest
istical tables have been retained in
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as based on those tables have been

ous which are necessary either to justify
ned or to show the method of reaching
nted. The complete report as finally
nted is contained in the "Interim Re-
the Committee on School Inquiry to the

Board of Estimate and Apportionment on February 15, 1913.

The study of "The Size of Sections" was undertaken as the result of a question asked by President Mitchel in a letter dated June 14, 1911: "What is the largest practical size for a class in the high schools?" The purpose of this study was to show what is actually the size of sections in the high schools of New York City; to compare the size as found with the standard or standards established by the Board of Superintendents; to suggest, in view of existing conditions, what the standard size of section should be; and to obtain the information necessary for estimating the number of teachers needed in the high schools.

To organize and maintain school sections of a satisfactory size is both an educational and a financial problem. Every high school teacher and every educational administrator, whether principal, superintendent, or member of a Board of Education, as well as every city official having to do with educational finances, is concerned with the number of pupils that should constitute a class. In view of the universal interest and importance of this problem, therefore, the monograph on "The Size of Sections" is included in this book.

The studies of "The Work of Chairmen of Departments" and of "The Work of Other Teachers" were undertaken to find out whether the number of teachers employed in the high schools of New York City was actually proportionate to their needs. To determine this involved an examination of the amount of work the teachers were doing; a critical consideration of the nature and character of such work, in order to determine whether it was legitimate work for teachers; a comparison of the amount of work assigned to teachers with the standard amount fixed by the Board of Superintendents; and the passing of judgment on the wisdom of that standard.

Since the high schools in all our large cities have enough teachers in the several departments to require chairmen of

departments in their organization, it is believed that the facts brought out in these two monographs and the methods of investigation employed justify including them both in this book, though with certain slight modifications.

The study of "The Administrative Control of the High Schools as It Affects Internal Organization" was made for the purpose of showing on whom the responsibility rests for the conditions found in the high schools. The study of the size of sections showed, among other things, that there were large and small sections which did not conform even approximately to the standard size fixed by the Board of Superintendents. Similarly, the study of the work of chairmen of departments showed that the amount of teaching assigned to them was far in excess of the standards fixed by the Board of Superintendents. It was the purpose of this study of "Administrative Control" to fix as far as possible on the proper officials the responsibility for these unsatisfactory conditions. Inasmuch as the administrative problems treated in this monograph are common to all high schools, whether large or small, and urban or rural, the monograph is included in this book.

Since the fifth monograph deals with a problem peculiar to the City of New York, only a résumé of it is presented, showing briefly the importance of the problem to New York, the scope and methods of the investigation, and the general conclusions reached.

An account is given of the way in which New York City estimates, for budget purposes, the number of teachers needed in the high schools during the eighteen months subsequent to the time of making the school budget. The methods of preparing school budgets in various cities differ greatly, but the magnitude and complexity of the problem of estimating the need of high school teachers in the City of New York are peculiar to that city. Hence the details of dealing with that problem, as presented in the original monograph, are not included in this book.

In revising the five monographs for this book it has

seemed convenient to divide them into chapters and, in addition, to collect in one final chapter the summaries of findings and recommendations which originally followed the discussions in each monograph. These summaries (of findings and recommendations) have accordingly been collected into Chapter XX, where, to facilitate reference to them, they will be found arranged by topics.

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**The Size of Sections (Classes) in the
High Schools**

STUDIES IN HIGH SCHOOL ORGANIZATION

CHAPTER I

THE PLAN OF ADMINISTRATION

A COMMITTEE OF THE BOARD OF SUPERINTENDENTS

THE high school system of New York City is under the direction of one of the Associate City Superintendents, who is chairman of the Committee on High Schools of the Board of Superintendents. A district superintendent is also assigned to the high schools, so that the twenty high schools and twenty-one annexes in New York City are under the supervision and direction of these two officials. All matters pertaining to the high schools, such as courses of study and the appointment and transfer of high school teachers, reach the Board of Superintendents through the Committee on High Schools. On the other hand, matters directly presented to the Board of Superintendents are referred to this committee for reports and recommendations.

Naturally, the general administration of the high schools by this committee bears a direct relation to the detailed organization of each school. In addition to directing the matters already referred to, the Associate City Superintendent in charge of high schools fixes the standard size of recitation sections and the standard number of periods of teaching per week, according to which the principals of the high schools are expected to organize their schools.

THE PRINCIPALS AS EXECUTIVE HEADS

The principals of the high schools are, by the by-laws of the Board of Education, the executive heads of their respective schools and are directed to organize and administer them under the direction of the Board of Superintendents. A principal's activities are thus limited to the details of organization, administration, and supervision within his school. Thus the merit system of appointing teachers,¹ as it exists in New York City, gives the principal no part in the selection or appointment of teachers; he has to take the first teacher on the list of eligible candidates. The amount of teaching which a first assistant, or a teacher in a given department, shall do after appointment is determined by the standards fixed by the Board of Superintendents. The size of recitation sections in the various terms is determined by the Board of Superintendents. The course of study and syllabi are prepared and time allotments fixed by the Board of Superintendents, with such assistance as the board sees fit to invite, there being no regular channel through which views of the teachers and principals reach the Board of Superintendents. Supplies and text-books are ordered by the principal, but from a list approved by the Board of Superintendents. The principal is expected to make the best possible use of the facilities at his disposal, to carry out the prescribed course of study, and, in general, to organize his school in accordance with the regulations of the Board of Superintendents as nearly as conditions will permit.

THE FIRST ASSISTANTS

The principals of the high schools may be assisted in the administration of their respective schools by teachers hav-

¹ The Charter provides (Section 1091, Title I, Chapter XVIII) that a teacher nominated by the Board of Superintendents shall be from among the first three on a list of eligible candidates. In actual practice, the Board of Education practically requires (Section 40, Paragraph 9) that the first person on the list be nominated.

ing the rank of first assistants. A first assistant is made chairman of a department of study wherever possible, and, as such, is charged with the general direction of the work of the department. In addition, the first assistant is a general administrative officer under the direction of the principal. According to the by-laws of the Board of Education, principals may also, with the approval of the City Superintendent of Schools, assign administrative work to teachers.

CHAPTER II

PRESENT SIZE OF SECTIONS

THE IMPORTANCE OF SIZE OF SECTIONS

AMONG the matters pertaining to the internal organization of the high schools, the size of sections and the work of teachers are of fundamental importance. The size of sections is important educationally because the size of section affects the character of the instruction. If the section is too large, the teacher cannot give the essential individual attention to each member of the class. If the section is too small, the pupils lose the important results accruing from an association with other pupils solving common problems. The size of sections is important economically because fewer teachers will be required if pupils are distributed in sections of forty pupils than if distributed in sections of thirty pupils. If the sections are large, the number of sections to be taught will be smaller; hence, fewer teachers would apparently be needed. If the sections are small, the number of sections to be taught will be larger, resulting in the apparent need of a larger number of teachers. It is obvious that the size of sections and the amount of teaching to be done are not only of fundamental importance, but are inseparably connected.

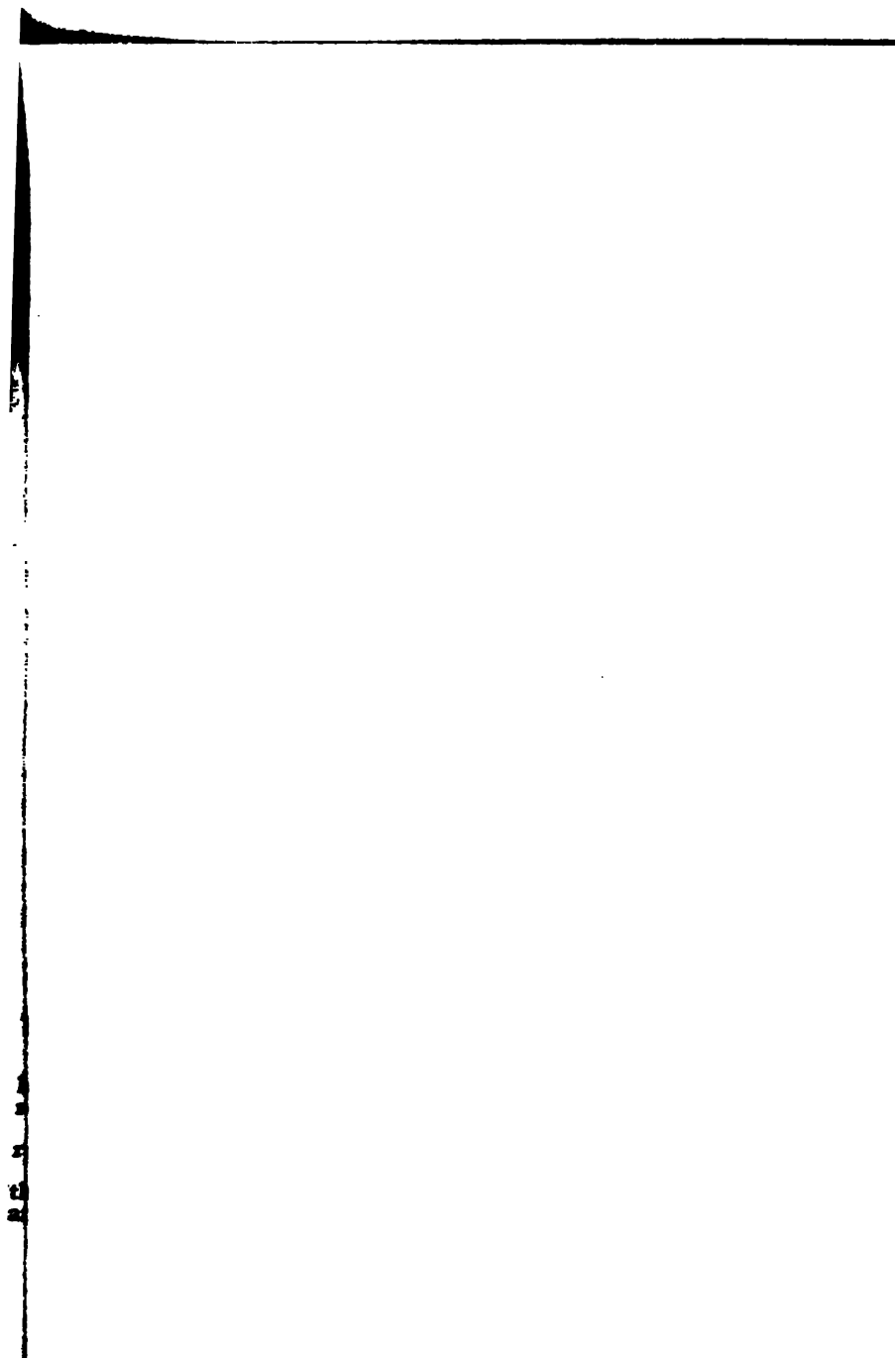
WHAT CONSTITUTES EFFECTIVE HIGH SCHOOL ORGANIZATION?

If the high schools were most effectively organized as to sections, all sections would be approximately of satisfactory size for doing effective work. If the sections in the various

TABLE I—TABLE TO SH

HIGH SCHOOLS	No. of Sections	10	11	12	13	14	15	16	17	18	19	20
DeWitt Clinton	35			1					1	1	1	
High School of Commerce	34					1				1	3	
Stuyvesant	46						1				1	2
Wadleigh	24	1		1				2		1		1
Washington Irving	72					1	2					1
Morris	54						2	1				1
Girls'	40	2								1	1	
Boys'	30	1								2	1	
Erasmus Hall	27											3
Manual Training	64					1	1	1			1	2
Commercial	55									1	1	
Eastern District	47				1					1		1
Bushwick	20									1		
Bryant	15	x^1										
Newtown	15											
Flushing	14	2							1		1	
Far Rockaway	6	x^2							1			
Jamaica	18			1	1	1						2
Richmond Hill	22	x^3	1			1	1	1	2		1	1
Curtis	18	x^4	1			1			1			
	656	12	2	3	2	6	7	5	6	9	13	12

 x^1 = One section with 6 pupils



THE SIZE OF SECTIONS IN GERMAN AND THE NUMBER OF SIZE OF SECTIONS

22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
			1	2	2	3			3	1		1	1		1	4	2	3	3	2	1	1
1		1					1	2		1	1	1	1	1		1	1	5	3	5		
	1	3	4	2	2	1	1	8	4	1	1	2		2	1	1	2	2		1	1	
		1		2				1	1	1	2	1	1			2	2	2			1	
1		3			1	7		1	3	2	1	6	5	1	6	4	4	3	3	3	1	
1		3	1	1		3	2	1	3	1	2	3	4	7	1	5	3		1		2	
	1	1	1		4	3	2	2	2	2	3	2	1	2	1	1	1	2	1			
		5	3	3		1	1	3	2	3	2			1		1	1					
1		2	1	4	2	4	2	2	2			1				1				1		
1	2	2		5	1	3	4	4	4	2	3	10	3	3	3	1	2	2	1		1	
	1	1	2	3	3	2	2	6	1	4	1	4	5	7	5	2	1	1				
1	1		3	1		4	1	2	1	4	3	6	3	2	4	1	2	1	2			
	1	1	1			1	1			1	1	1	2	1	1	1						
					1	1				2	1	2	2	2			1		1			
		2	3			1	1	1	1	2						4						
3		1	2							2		1					1					
	2													1								
				1				1		4		1	2	1		1						
	1					1	1	1	1			4	1		1							
		2	1	1		1		2	5						1							

= One section with 5 pupils x^2 = Two sections with 7 pupils each x^4 =



high schools were organized according to a given standard, a typical study of that organization ought to show that the sections in a school or in a given term group themselves around that standard. For example: If the standard size of section is thirty pupils,¹ and if there are pupils enough for two or more sections, the actual size of the sections in a given term could reasonably be expected to vary, in practice, from possibly twenty-eight to thirty-three or thirty-five pupils. German and mathematics have been selected as typical subjects for our study because they are found in all the high schools, and are offered under as uniform conditions as to time allotments as are any subjects.

THE SIZE OF SECTIONS IN GERMAN AND MATHEMATICS IN
THE CITY AS A WHOLE—TYPICAL STUDY²

Table I shows the size of sections in German in the high schools of New York City, and the number of sections of each size, in the February-June term, 1911.

Table II shows the size of sections in mathematics³ in the high schools of New York City, and the number of sections of each size, in the February-June term, 1911.

The number of sections in German in each school is given in the first column after the name of the school. At the top of the table is a scale from "10" to "65," representing the size of sections. In the vertical column, under each number in the scale, is given the number of sections of that size in the various high schools. At the foot of the table are the totals for the city.

The heavy line drawn through the table from top to bottom divides the number of sections in each school and

¹ We shall here accept the standard of thirty pupils per section, and leave the discussion and defense of this standard to a later part of this report.

² Typical as to method of treatment and kind of study which should regularly be made.

³ The discussion of the size of sections will be confined to German; the mathematics table, which is here introduced, shows the same facts and points to the same general conclusions.

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the total for the city into two approximately¹ equal parts. For example: The line drawn so as to divide the total number of sections in German in the New York City high schools into two approximately equal parts, if extended, would cross the scale at the top of the table between "31" and "32." This shows, therefore, that there are in New York City as many sections with thirty-two or more pupils as there are with less than thirty-two pupils. The line is so drawn though the table as to show the same facts for each school as are shown for the city as a whole.

The table shows (1) that there are small sections in every high school; (2) that there are large sections in every high school; (3) that there is great variation in the size of sections among the different high schools; (4) that the size of sections for the city as a whole does not sufficiently approximate to a standard; and (5) that the size of sections in individual schools does not sufficiently approximate to the established standards.

Small Sections in Every High School

All high schools have sections with twenty-five pupils or less; all high schools, except Newtown, have sections with twenty pupils or less; all high schools, except Newtown

¹"Approximately," because it is exact only in case it happens to be possible to divide the number of sections in each school into two equal parts and also in case the number of sections either side of the point where the line will cross is "1." For example: There are thirty-five sections in DeWitt Clinton High School, one half of which is seventeen and one half. To divide the series of numbers referring to DeWitt Clinton into two *equal* parts would necessitate dividing the one section in column "34" into halves. Further, in the case of Morris High School, there are fifty-four sections in German, of which twenty-seven is one half. To divide the series of numbers into two *equal* parts would mean that the number "4" under the size of section "35" would have to be divided into "1" and "3," the "1" of which would be counted with the numbers at the left, and the "3" of which would be counted with the numbers at the right. To obviate these two difficulties, the line has been drawn in every case either where it exactly divided the number of sections into two *equal* parts or at the left of the number which would have to be divided to make an *equal* division.

ER OF SECTIONS OF EACH SIZE

44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65

4 3 1

1 1

1 1 1 1 1 1 1 1 1 1

2 3 1 1 1 2

2 2 1 1 2 1

3 2 1

2 1

1 1 1

1 1

1 1 1

1 1

1 1

-

1

16 11 12 2 3 2 4 1 3 3 2 1

tions with 6 pupils. $x^4 = 1$ section with 2 pupils.



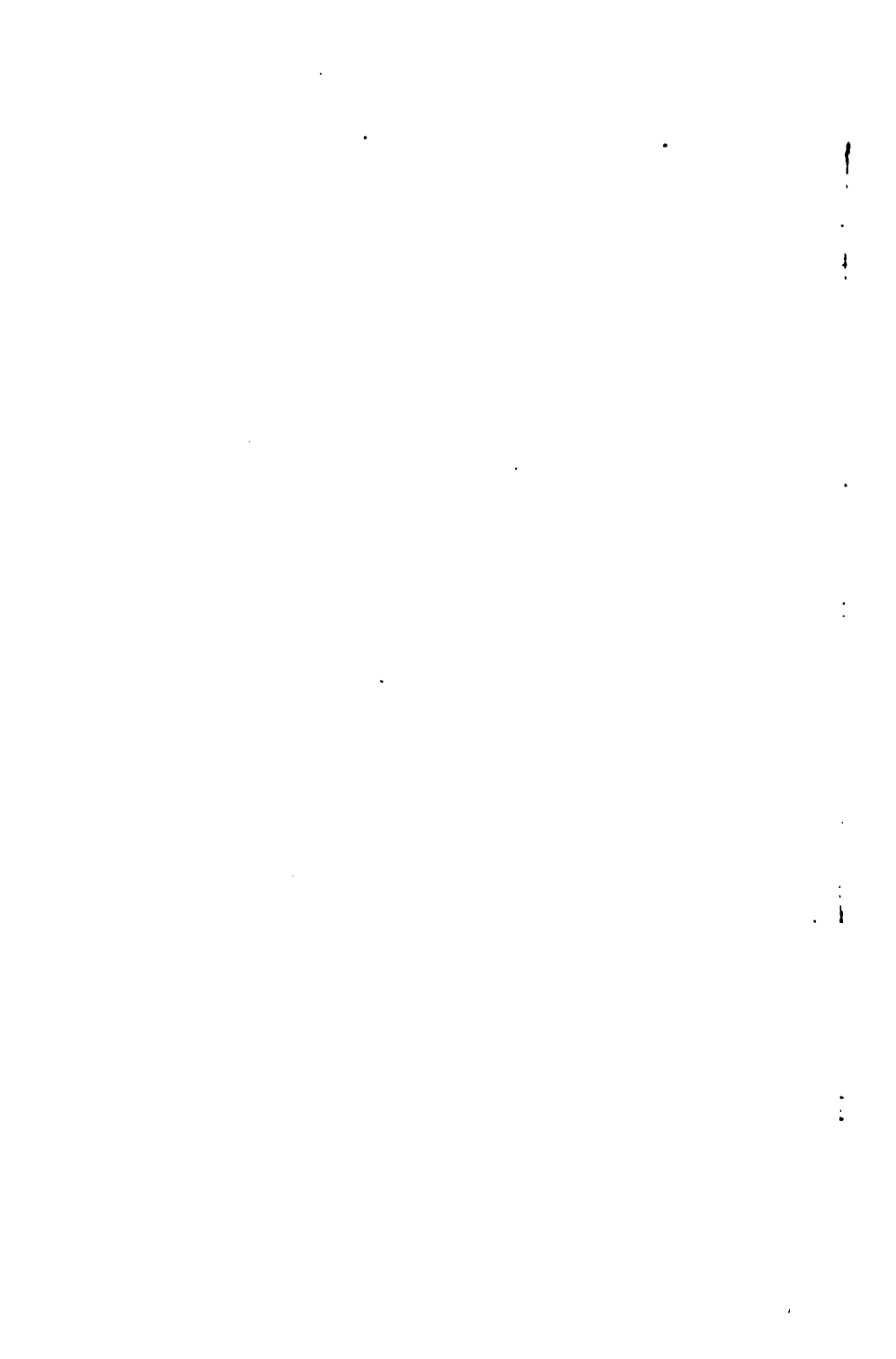


TABLE II—TABLE TO SHOW

HIGH SCHOOLS	No. of Sections	10	11	12	13	14	15	16	17	18	19	20
DeWitt Clinton	87							1	2	1	1	
High School of Commerce	47	x^1						2		1	1	
Stuyvesant	65	x^2									1	
Wadleigh	71					1			1			2
Washington Irving	61							1		1		
Morris	85					1			1	1	1	2
Girls' High	82						1					1
Boys' High	51	x^2			1		3		2			1
Erasmus Hall	84	x^2	1					1				3
Manual Training	66											
Commercial	54				1					1	1	1
Eastern District	48											1
Bushwick	9					1						
Bryant	28	x^2x^4	1	1	1							
Newtown	15											
Flushing	20	x^3	1				1					1
Far Rockaway	8	x^1			1			1				
Jamaica	18	x^1	2									
Richmond Hill	20	x^3x^6	1	2	1					2	1	
Curtis	25	x^2x^4					1		1	1		
	944	19	3	2	4	3	6	6	7	8	6	12

x^1 = 1 section with 6 pupils. x^2 = 1 section with 9 pupils.

100

and Erasmus Hall, have sections with eighteen pupils or less; all high schools, except Newtown, Erasmus Hall, Commercial, and Bushwick, have sections with seventeen pupils or less. There are also sections with five, six, and seven pupils.

Large Sections in Every High School

All high schools have sections with thirty-eight pupils or more; all high schools, except Curtis, have sections with thirty-nine pupils or more; all high schools, except Curtis, Boys', and Flushing, have sections with forty-four pupils or more. There are also sections with fifty, fifty-five, sixty, and sixty-five pupils.

Great Variation in Size of Sections Among High Schools

In Table I, the heavy line divides the number of sections in German in each high school into two approximately equal parts. It is to be noted that the heavy line crosses the numerical series for the various schools at many different points.

The extremes of the variation are shown by the fact that the line passes between twenty and twenty-one in the case of Richmond Hill High School and between thirty-six and thirty-seven in the cases of the High School of Commerce and Washington Irving High School.

Not only are there differences among the schools in the point at which the heavy line divides the number of sections in each school, but there is also no considerable number of schools which are divided between the same sizes of sections. Table III shows that the number of sections in each school is divided between the same numbers in only four of the twenty high schools:

TABLE III

SIZE OF SECTION (AT RIGHT OF HEAVY LINE) ¶

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Number of schools divided at that point	1	0	1	0	1	0	0	2	0	2	0	4	2	2	2	1	2

The Size of Sections for the City as a Whole Does Not Sufficiently Approximate to a Standard

The size of sections in both the small and large high schools ranges from a very small number of pupils to a very large number of pupils. For the city as a whole, the smallest section is five pupils, and the largest section is sixty-five pupils. Taking the totals of the city as a whole, as shown in Table I, it will be seen that, beginning with the size of section 25, the number of such sections is conspicuously larger and continues so to size of section 40. In other words, the most conspicuous sizes of section for the city as a whole are from twenty-seven sections with twenty-five pupils each to twenty-three sections with forty pupils each, without any one size between these extremes being conspicuously common. Between these limits of twenty-five and forty in the scale are found 71.34 per cent. of the sections in German. If we apply the standard fixed by Associate City Superintendent Stevens (viz., thirty to forty pupils per section) to the city as a whole, we find that only 51.68 per cent.—a bare majority—of the sections in German are within the limits of that standard.

It should be stated that the range of size of sections which is most conspicuous for the city as a whole (twenty-eight to forty pupils), as well as the range of size of sections which is fixed by Associate City Superintendent Stevens for the combined terms (thirty to forty pupils), is too great. With the large number of pupils in the department of German in most high schools, sections ought to be so organized that a larger number of sections will come within the limits of a narrower standard.

CHAPTER III

THE SIZE OF SECTIONS COMPARED WITH THE ESTABLISHED STANDARDS

PRINCIPALS are directed by Associate City Superintendent Stevens¹ to organize first term sections with as many as forty pupils each, and all other sections with from thirty to thirty-five pupils each. In order to measure the practice in the schools by these standards, it is necessary to separate first term sections from sections in other terms. Therefore, our discussion will be divided into two parts, (1) sections in first term, and (2) sections in the second to eighth terms, inclusive.

*Sections in First Term*²

Table IV on page 10 shows for each school the per cent. of sections containing less than thirty pupils,³ from thirty to forty pupils, and over forty pupils.

This table shows that some schools are approximating to the established standard—thirty to forty pupils—rather closely in first term sections. For example: 75 per cent. of first term sections in German in Wadleigh High School

¹ Statement made at a conference with Associate City Superintendent Stevens in his office, November 15, 1911.

² The tables on which Tables IV and V are based have been filed with the Committee on School Inquiry.

³ Inasmuch as Associate City Superintendent Stevens set no minimum size for first term sections, we have adopted the minimum fixed for other terms, even though this sets up a standard with wide limits. These wide limits will partially account for the fact that schools more nearly approximate this standard than they do the standard in the upper terms.

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range from thirty to forty pupils per section. In Manual Training High School the percentage of sections between thirty and forty pupils is 77.78 per cent. In Commercial High School the percentage of sections conforming to the standard is 83.33 per cent. In the smaller schools we should expect to find a somewhat greater variation from the stand-

TABLE IV

High Schools	Below 30 Pupils	30-40 Pupils	Over 40 Pupils
DeWitt Clinton.....		66.67	33.33
H. S. of Commerce.....	15.38	53.85	30.77
Stuyvesant.....	20.00	73.33	6.67
Wadleigh.....	25.00	75.00	.....
Washington Irving.....	4.76	52.38	42.86
Morris.....	6.25	56.25	37.50
Girls'.....	30.00	40.00	30.00
Boys'.....	50.00	50.00	.....
Erasmus Hall.....	83.33	16.67	.....
Manual Training.....	11.11	77.78	11.11
Commercial.....	16.67	83.33	.....
Eastern District.....		57.14	42.86
Bushwick.....		60.00	40.00
Bryant.....		83.33	16.67
Newtown.....		75.00	25.00
Flushing.....		100.00	.....
Far Rockaway.....			100.00
Jamaica.....	50.00	33.33	16.67
Richmond Hill.....	20.00	80.00	.....
Curtis.....	66.67	33.33	.....
City.....	17.49	61.75	20.76

ard than in the larger schools, where the principals can control more directly the size of section, owing to the larger number of pupils in first term. Nevertheless, in Flushing High School, where there are only four sections of first term German, all of them come within the limits of the standard. In Richmond Hill High School 80 per cent., or four out of five of the first term sections, are within the limits of the standard.

On the other hand, in Erasmus Hall High School, 83.33 per cent. of the sections in first term German contain less than thirty pupils; in Curtis High School, two thirds of the sections, or 66.67 per cent., contain less than thirty pupils. Further, in Eastern District High School, 42.86 per cent. of the sections in first term work contain over forty pupils.

For the city as a whole it will be observed that 61.75 per cent. of first term sections in German are organized within the limits of the standard; 17.49 per cent. of the sections contain less than thirty pupils, and 20.76 per cent. contain over forty pupils. There are seven high schools with no sections below thirty pupils in first term work; on the other hand, there are seven high schools with no sections with over forty pupils. In general, therefore, it is seen that a fair majority of the sections in first term German are organized within the limits of the standard fixed by Associate City Superintendent Stevens for first term sections, and that there are more sections with over forty pupils than there are with less than thirty pupils.

We have been measuring the practice in the schools by the established standard. It should be pointed out here that the practice of organizing first term pupils into sections of forty or more pupils must be emphatically condemned. The establishment of this rule that first term pupils be organized into sections larger than sections in other terms has grown out of an effort on the part of the Board of Superintendents to maintain a uniform "average number of pupils per teacher" in the various schools of the city. As has been pointed out elsewhere,¹ sections in the upper terms are likely to be unavoidably small. In order to offset this inevitable condition and produce a fair "average number of pupils per teacher," the sections of first term pupils are now made exceptionally large. Further, the number of pupils in first term classes, compared with the number of pupils in upper classes, seems to make it economically necessary to make sections in first term comparatively large. From an

¹ See page 15.

educational point of view there is no reason why the sections in first term should be larger than sections in other terms, and there are many reasons why they should not be. For example: The pupils need more individual attention when they first enter high school than at any subsequent time; their work is all new; they have to become accustomed to more teachers; and they are soon lost if thrown too much on their own responsibility.

Some of the first term sections with less than thirty pupils, shown in Table IV, are unavoidable,¹ because there was only one section which contained all the pupils in that term. Some of these small sections are due to a division of one large section into two comparatively small ones, the two small ones containing all the pupils doing the work of that term. These sections must be considered unavoidable and hence defensible. There are, however, as a matter of fact, in the high schools of the city, only two such sections in first term. In other words, 6.25 per cent. of the sections with less than thirty pupils are unavoidable, leaving 93.75 per cent. of the small sections avoidable² through a redistribution of pupils.

Considering the first term sections with over forty pupils in the same manner, we find that, of the 20.76 per cent. of the sections with over forty pupils, 5.26 per cent. of those sections were unavoidable, and 94.74 per cent. of them were in schools where a redistribution of pupils would have made it possible to reduce their size. Although we are not here fundamentally concerned with the financial consequences of reducing these large sections, it should be pointed out that while some of these large sections can be reduced by a redistribution of pupils, most of them can be avoided only by the employment of additional teachers.

¹ This discussion of avoidable and unavoidable sections is based on tables filed with the Committee on School Inquiry, and not on tables included here. These tables were similar to those of selected schools on pp. 17, 22, 26.

² Provided the conditions in the school determining the size of section are within the principal's control. See p. 15 and note.

Sections in the Second to Eighth Terms, Inclusive

Table V shows for each school the per cent. of sections containing less than thirty pupils, from thirty to thirty-five pupils, and over thirty-five pupils.

TABLE V

High Schools	Below 30 Pupils	30-35 Pupils	Over 35 Pupils
DeWitt Clinton.....	46.15	23.08	30.77
H. S. of Commerce.....	38.10	19.05	42.85
Stuyvesant.....	51.61	19.36	29.03
Wadleigh.....	40.00	30.00	30.00
Washington Irving.....	29.41	31.37	39.22
Morris.....	39.47	34.21	26.32
Girls'.....	43.33	33.34	23.33
Boys'.....	60.00	30.00	10.00
Erasmus Hall.....	66.67	23.81	9.52
Manual Training.....	41.82	40.00	18.18
Commercial.....	38.71	25.81	35.48
Eastern District.....	32.50	40.00	27.50
Bushwick.....	60.00	10.00	30.00
Bryant.....	33.33	33.34	33.33
Newtown.....	45.46	27.27	27.27
Flushing.....	100.00	.....	.....
Far Rockaway.....	80.00	20.00	.....
Jamaica.....	33.33	33.34	33.33
Richmond Hill.....	70.59	17.65	11.76
Curtis.....	46.67	46.67	6.66
City.....	44.82	29.60	25.58

This table shows that most of the schools are not approximating to the standard of from thirty to thirty-five pupils per section in German above the first term. For example: In Stuyvesant High School, 51.61 per cent. of the sections contain less than thirty pupils; in Wadleigh High School, 40 per cent.; in Boys' High School, 60 per cent.; in Erasmus Hall High School, 66.67 per cent.; and in Richmond Hill High School, 70.59 per cent. On the other hand, in the

High School of Commerce, 42.85 per cent. of the sections in German above the first term contain more than thirty-five pupils; in Commercial High School, 35.48 per cent.; in Bryant High School and Jamaica High School, 33.33 per cent. of the sections in each contain over thirty-five pupils.

The figures for the city as a whole indicate fairly well the conditions in each school. In the city as a whole, 44.82 per cent. of the sections in German contain less than thirty pupils; 29.60 per cent. contain from thirty to thirty-five pupils, and 25.58 per cent. contain more than thirty-five pupils. It is, therefore, obvious that the sections in German above the first term are not now organized in accordance with the standard of thirty to thirty-five pupils. This is true of the city as a whole, and is true of every individual high school. Further, there is no high school in the city where a majority of the sections in German above the first term are organized in accordance with the standard. The largest per cent. of sections between thirty and thirty-five pupils in any one school is in Curtis High School, where 46.67 per cent. of the sections range from thirty to thirty-five pupils.

Of sections with less than thirty pupils, we find that, of the 44.82 per cent., 24.53 per cent. were unavoidable, because they contained all of the pupils in the given term. This leaves 75.47 per cent. of these sections with less than thirty pupils in terms where a different distribution of pupils would have made it possible to avoid them.

Of the sections with over thirty-five pupils, 4.13 per cent. were unavoidable, and 95.87 per cent. were in terms where a different distribution of pupils or the employment of additional teachers would have made it possible to reduce their size.

CHAPTER IV

WHO IS RESPONSIBLE FOR THE SIZE OF SECTIONS AS FOUND?

IMPORTANT FACTS WHICH TABLE I DOES NOT SHOW

TABLE I, however, does not show whether the small or the large sections are inevitable, and hence defensible and justifiable, or whether they could be avoided by a different distribution of pupils. If the large section is the only section in a given term, and to divide it would mean two very small sections, such a section is justifiable. If a small section contains all the pupils doing that term's work, it is obvious that such a section is inevitable and justifiable. On the other hand, if very small sections and very large sections are found in any given term, it is important to ascertain the reason. The reason may be found in the way the daily program is made, responsibility for which rests on the principal; or it may be found in other factors¹ over which the Department of Education has exclusive control. To see to what extent the exceptionally large or exceptionally small sections are unavoidable, or whether they could have been avoided by a better distribution of pupils, assuming that the factors outside the principal's control are favorable, it is necessary to know the size of sections by terms for each school and annex. To include in this report all the tables giving these data would extend it unreasonably. Such tables have been filed with the Committee on School Inquiry. Our discussion will be limited to a few types, to illustrate the kind of material which such tables contain, and also to show

¹ These factors are the program of studies, the size of the school, the size and number of classrooms, and the number of teachers employed.

the worth of it for administrative, as well as supervisory, purposes.

In the following study the sections in each school will be measured by the established standard size of section, after which attention will be given to the following points concerning the sections in each term: the range of size of section; the average size of section as organized; the desirability of increasing the number of sections to reduce the number of large sections; and the possible combination of sections to reduce the number of small sections.

SIZE OF SECTIONS IN GERMAN IN MORRIS HIGH SCHOOL

Table VI on page 17 shows the size of sections in German in Morris High School by terms, and the number of sections of each size, in the February-June term, 1911.

Morris High School is selected for study because it is typical of a large majority of the high schools in New York City as to courses of study offered, size of school, and size and number of classrooms. The organization of sections in the school in this and the following cases will be considered from the standpoint of (1) the school as a whole, and (2) each term within the school.

The School as a Whole

Comparing the size of sections in Morris High School with the established standards, we find:

1. That 100 per cent. of the first term sections are within the limits of the established standard—thirty to forty pupils.
2. That 41.38 per cent. of the sections in other terms are within the limits of the established standard—thirty to thirty-five pupils.
3. That 31.03 per cent. of the sections contain less than thirty pupils, of which 33.33 per cent. are unavoidable and

66.67 per cent. are avoidable by a different distribution of pupils.¹

4. That 27.59 per cent. contain more than thirty-five pupils and are all avoidable.

If we measure the sections in Morris High School by the proposed standard of thirty pupils per section, and take twenty-eight and thirty-five as the minimum and maximum limits of that standard, we find:

1. That 44.44 per cent. of the sections in all terms are within the limits of this standard.

2. That 13.89 per cent. of the sections contain less than twenty-eight pupils, of which 60 per cent. are unavoidable, and 40 per cent. are avoidable by a different distribution of pupils.

3. That 41.67 per cent. contain more than thirty-five pupils, all of which are avoidable by a different distribution of pupils.

If the sections in German in Morris High School did approximate to the established standard, we should expect to find a considerable majority of sections containing from twenty-eight to thirty-five pupils; a very small number of sections with more than thirty-five pupils per section, and a very large number of sections with less than twenty-eight pupils. Hence, except in the first term, the sections do not approximate closely to the established standard size.

Each Term Within the School

First Term. There are seven sections of first term German, ranging in size from thirty-six to thirty-nine pupils, with an average of 37.0 pupils per section. The range of the size of sections is satisfactory, because they do not differ materially in size. The average size of section is too large; there should have been one more section formed,

¹ Provided conditions in the school determining the size of sections are within the principal's control. This provision applies not only in this case, but also to similar statements made in the following pages.

thereby reducing the average number of pupils per section to 32.3, and correspondingly reducing the actual size of each section.

Second Term. There are nine sections, ranging in size from twenty-five to thirty-eight pupils, with an average of 31.9 pupils per section. The range of the size of sections is too great, and the question is raised why these sections were not made more uniform in size. The average size of section is reasonable, but there are some sections too large and some sections smaller than they need be for effective work.

Third Term. There are five sections, ranging in size from twenty-eight to forty-six pupils, with an average of 36.6 pupils per section. The range of the size of sections is too great. Also, the average size of section is too large. One more section should have been formed, thereby reducing the average number of pupils per section to 30.5.

Fourth Term. There are five sections, ranging in size from thirty-one to thirty-eight pupils, with an average of 34.6 pupils per section. This is probably as effective an organization as could be made, both from the standpoint of the range of size of sections and the average number of pupils per section. Another section would have reduced the average too much, and the range of the size of section is not bad.

Fifth Term. There are four sections, ranging in size from twenty-one to thirty-six pupils, with an average of 29.2 pupils per section. The range of the size of sections is too great, but it is obvious that the average size of section is the best that could be provided in view of the fact that fewer sections than four would have made each section altogether too large.

Sixth Term. There are four sections, ranging in size from thirty-one to thirty-five pupils, with an average of 33.0 pupils per section. This organization is satisfactory, from the standpoint both of range and of the average size of sections.

Seventh Term. There is one section of fifteen pupils,

which, of course, is the best that could be arranged, inasmuch as it includes all of the pupils in this term.

Eighth Term. There is one section of sixteen pupils, which certainly could not be improved upon, because all the pupils in the eighth term are in this section. There is a possibility of a combination of seventh and eighth term sections, but such a combination might be unsatisfactory because of the size of the resulting section, or impossible for administrative reasons.

The important points in this discussion of the sections in Morris High School are:

1. The number of sections in the first six terms of German is four or more. The size of section, therefore, depends, to some extent, upon how the principal distributes the pupils. In the seventh and eighth terms there is only one section in each term.
2. The average size of section is:
 - a. Altogether too large in the
first term (37.0)
third term (36.6)
 - b. Nearly the maximum size in the
fourth term (34.6)
sixth term (33.0)
 - c. Satisfactory in the
second term (31.9)
fifth term (29.2)
 - d. Unavoidably small in the
seventh term (15.0)
eighth term (16.0)
3. The range of the size of sections is:
 - a. Satisfactory in the
first term (36 to 39)
fourth term (31 to 38)
sixth term (31 to 35)
 - b. Unsatisfactory in the
second term (25 to 38)
third term (28 to 46)
fifth term (21 to 36)

4. As a result of the facts revealed, additional sections would be recommended in the first and third terms to reduce the size of sections. It is also worth pointing out that there was a possibility of combining the two sections in the seventh and eighth terms of work. In this reorganization, therefore, it would have been necessary to make only one additional section, or two in case it was impossible, for administrative reasons, to unite the sections in the seventh and eighth terms. No additional teachers would have been needed, provided the programs of teachers were not already heavy.

SIZE OF SECTIONS IN GERMAN IN BOYS' HIGH SCHOOL

Table VII on page 22 shows the size of sections in German in the Boys' High School by terms, and the number of sections of each size, in the February-June term, 1911.

Boys' High School is selected for study because it has been shown in Table I that the size of sections in this school is relatively small.

The School as a Whole

Comparing the size of sections in Boys' High School with the established standards, we find:

1. That only 50 per cent. of the first term sections are within the limits of the established standard—thirty to forty pupils.
2. That 50 per cent. of the sections contain less than thirty pupils and are all avoidable.
3. That there are no sections containing more than forty pupils.
4. That 30 per cent. of the sections in other terms are within the limits of the established standard—thirty to thirty-five pupils.

TABLE VII

Terms	No. of Sections	Size of Sections																																				
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39							
1	10	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	2	..	1	..	..	..	1	..	3	..	..	..	..	..	1	..	..			
2	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	2	..	..	..	..	..	..	1	..
3	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
4	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
6	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals.....	30	1	..	..	..	..	..	..	2	1	..	..	..	..	..	..	5	3	3	1	1	3	2	3	2	..	..	..	..	1	1	1	

5. That 60 per cent. of the sections contain less than thirty pupils, of which 50 per cent. are unavoidable, and 50 per cent. are avoidable by a different distribution of pupils.

6. That 10 per cent. of the sections contain more than thirty-five pupils, and are all avoidable.

If we measure the sections in Boys' High School by the proposed standard of thirty pupils, and take twenty-eight and thirty-five as the minimum and maximum limits of that standard, we find:

1. That 40 per cent. of the sections in all terms are within the limits of this standard.

2. That 50 per cent. of the sections contain less than twenty-eight pupils, of which 33.33 per cent. are unavoidable, and 66.67 per cent. are avoidable by a different distribution of pupils.

3. That 10 per cent. of the sections contain more than thirty-five pupils, and this may be avoided in each case by a different distribution of pupils.

It is interesting to note that twenty-three out of thirty, or 76.67 per cent., of the sections in German in Boys' High School are organized according to a standard of which twenty-five is the minimum and thirty-three is the maximum number of pupils. This shows that a school can be organized approximately within the limits of such a standard. The criticism of this organization is, first, that the standard, as here shown, does not approximate to the established standard for the city, and, second, that the standard here shown is unnecessarily low.

Each Term Within the School

A study of the size of sections by terms in Boys' High School, similar to the study made of Morris High School,¹ leads to the following conclusions:

¹ See pp. 18, 19, 20.

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1. The number of sections in each of five terms is three or more. In one term, the fifth, there are two sections; in the seventh there is one section; and in the eighth there are no pupils. Hence, in most terms the size of section depends on how the principal distributes the pupils.
2. The average size of section is:
 - a. Not too large in any term.
 - b. Not up to the maximum in any term.
 - c. Satisfactory in the
 - second term (30.4)
 - third term (30.2)
 - fourth term (29.7)
 - sixth term (27.0)
 - d. Unavoidably small in the
 - fifth term (22.0)
 - seventh term (10.0)
 - e. Unnecessarily small in the first term (27.6)
3. The range of size of section is:
 - a. Satisfactory in the
 - third term (27 to 33)
 - sixth term (26 to 29)
 - b. Unsatisfactory in the
 - first term (18 to 36)
 - second term (25 to 38)
 - fourth term (25 to 39)
4. The organization shows that the pupils in the first term could have been organized into one less section, and that in no term is an additional section needed. The reorganization proposed would have made less work for the teachers of German.

That the average of 27.0 pupils in the sixth term is considered *satisfactory*, and an average of 27.6 pupils in the

first term *unsatisfactory*, should be explained. This is because in the sixth term there were only three sections and the average could not be raised, whereas in the first term there were ten sections and that number of sections could be reduced by one without making sections too large.

SIZE OF SECTIONS IN GERMAN IN RICHMOND HILL HIGH SCHOOL

Table VIII on page 26 shows the size of sections in German in the Richmond Hill High School by terms, and the number of sections of each size, in the February-June term, 1911.

Richmond Hill High School is selected for study because it was shown in Table I that the sections in German in this school were the smallest in the city, in spite of the fact that the number of pupils taking German in this school compares favorably with the number in other schools.

The School as a Whole

Comparing the size of sections in Richmond Hill High School with the established standards, we find:

1. That 80 per cent. of the first term sections are within the limits of the standard—thirty to forty pupils.
2. That 20 per cent. of the sections contain less than thirty pupils, and are all avoidable.
3. That there are no sections containing more than forty pupils.
4. That 17.65 per cent. of the sections in other terms are within the limits of the established standard—thirty to thirty-five pupils.
5. That 70.59 per cent. of the sections contain less than thirty pupils, of which 30.77 per cent. are unavoidable, and 69.23 per cent. are avoidable by a different distribution of pupils.
6. That 11.76 per cent. of the sections contain more than thirty-five pupils, and are all avoidable.

TABLE VIII

Terms	No. of Sect's	Size of Sections																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
1	5	I

x¹ = 1 Section with 7 pupils.

If we measure the sections in Richmond Hill High School by the proposed standard of thirty pupils per section, and take twenty-eight and thirty-five as the minimum and maximum limits of that standard, we find:

1. That only 31.82 per cent. of the sections in all terms are within the limits of the standard.
2. That 54.54 per cent. of the sections contain less than twenty-eight pupils, of which 33.33 per cent. are unavoidable, and 66.67 per cent. avoidable by a different distribution of pupils.
3. That 13.64 per cent. of the sections contain more than thirty-five pupils, and are all avoidable by a different distribution of pupils.

It should be pointed out that in Richmond Hill High School over 70 per cent. of the sections other than first term sections contain less than thirty pupils, and, further, that, even with the minimum of the standard reduced from thirty to twenty-eight pupils, the per cent. below the standard is over 64 per cent. In other words, the sections in German in Richmond Hill High School are too small, whether measured by the established standards or by the proposed standard.

Each Term Within the School

A study of the size of sections by terms in Richmond Hill High School, similar to the study made of Morris High School,¹ leads to the following conclusions:

- I. The number of sections in each of six terms is two or more. In two terms, the seventh and eighth, there is one section in each. Hence, in most cases, the size of sections depends on how the principal distributes the pupils.

¹See pp. 18, 19, 20.

2. The average size of section is:
 - a. Not too large in any term.
 - b. Approaching the maximum in only the second term (33.2)
 - c. Satisfactory in the first term (32.0)
 - d. Unavoidably small in the fifth term (26.0)
seventh term (7.0) (14)
eighth term (7.0)
 - e. Unnecessarily small in the third term (22.2)
fourth term (21.3)
sixth term (13.5)
3. The range of size of section is:
 - a. Satisfactory in the fifth term (21 to 31)
(Only two sections.)
 - b. Unsatisfactory in the first term (19 to 36)
second term (24 to 45)
third term (14 to 38)
fourth term (15 to 32)
sixth term (11 to 16)
4. By reorganization, the work of one teacher could be saved, because the number of sections could be reduced by four without making sections too large for effective work; the large sections could be abandoned and the small sections made to approximate the standard size of section.

SUMMARY

To summarize our study of the organization of sections in Morris, Boys', and Richmond Hill High Schools, we may say:

1. That a majority of the sections in the first terms are within the limits of the established standard. (Morris, 100 per cent.; Boys', 50 per cent.; Richmond Hill, 80 per cent.)
2. That a large majority of the sections in other terms are outside the limits of the standard. (Morris, over 58 per cent.; Boys', 70 per cent.; Richmond Hill, over 82 per cent.)
3. That a large per cent. of the sections below the minimum of the established standard are avoidable by a different distribution of pupils. (Avoidable in Morris, over 66 per cent.; in Boys', 50 per cent.; in Richmond Hill, over 69 per cent.)
4. That all of the sections over the maximum of the established standard are avoidable by a different distribution of pupils, or by the employment of additional teachers.

The measurement of the organization of the high schools, as they existed in the February-June term, 1911, by the proposed standard of thirty pupils per section, with a minimum of twenty-eight and a maximum of thirty-five pupils, shows that such a standard should be adopted, particularly in order to reduce very large first term sections. This study also brings out the fact that the sections are not now organized in accordance with the established standards.

Summarizing the detailed study of the organization of sections in the selected schools, the following statements can be made:

1. There are enough pupils in German in all terms, except the seventh and eighth, to necessitate the organization of more than one section. Hence, the principal can control to some extent the size of sections into which the pupils are distributed.

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2. The average size of section, with few exceptions, is fairly satisfactory, except in the first term. In most cases there are too few sections of first term pupils.
3. The range of the actual size of sections is generally unsatisfactory in each term. That is to say, there are small sections and large sections in the same term.
4. Some small sections are inevitable and, hence, defensible.
5. Most small sections are the result of a bad distribution of pupils by the principal.
6. In a few cases large sections are inevitable and, hence, defensible.
7. In most cases large sections are unnecessary and not defensible. They cannot be defended on the ground that the proper number of teachers is lacking, because it is the duty of the principals and the Board of Superintendents to secure the teachers needed.
8. In some cases, additional sections should have been made in the first term to reduce the size of section.
9. In a few cases fewer sections could have been made without making the sections too large. In one school, of the three schools considered, one teacher could have thus been spared.
10. And, finally, our study has shown the facts which such a treatment of high school organization reveals, and suggests the use which can be made of them. These facts would show the principal where the organization of his school could be improved, and they would also furnish the supervisory officers with the proper information by which to judge that organization.

CHAPTER V

THE PROPOSED STANDARD SIZE OF SECTIONS

WHAT IS THE PROPER SIZE OF SECTION?

IT has been shown that there are very small sections in every high school in the city; that there are very large sections in every high school; that the size of sections for the city as a whole does not sufficiently approximate to a standard; and that the size of sections in individual high schools does not sufficiently approximate to the established standards. Hence, it is natural to raise the question: What is the proper size of a recitation section in high school work? Sections in German have been found with as few as five pupils,¹ and with as many as sixty-five pupils.² In the case of the five pupils it happens that they were the only pupils doing eighth term work in German, and hence the size of section could not be changed. On the other hand, a situation which requires a principal to put sixty-five pupils into a section in third term German must be considered highly unsatisfactory. As far as we know, no well organized experiments have ever been undertaken to determine the number of high school pupils which should constitute a recitation section. In view of the absence of an authoritative standard, we recommend that a theoretically correct standard be adopted, and then tested in practice. We suggest that the tests cover the following points:

1. The relative progress of pupils in large and in small sections in the same term and the same subject.

¹ Far Rockaway High School.

² Washington Irving High School.

2. The effect upon teachers, intellectually and physically, of handling large and small sections.

In investigating the first topic, care should be taken that the results of the experiment are comparable. For example: the progress of a small section in mathematics should be compared with the progress of a large section in the same term's work of the same subject, and with pupils of the same relative stage of advancement. In the same way the relative progress of large and small sections in several subjects should be examined.

In investigating the second topic such questions as the following should be asked:

1. Does the teacher find inevitable disadvantages, from the standpoint of discipline, attention, ventilation, etc., in handling large classes?
2. Of how many pupils can a teacher hold the undivided attention for a period of forty-five minutes?
3. How much more (if at all) do large classes exhaust the teacher's physical and mental resources than small ones?
4. To what extent do large classes interfere with the teacher's growth in scholarship and in skill as a teacher?

PROVISIONAL STANDARD OF THIRTY PUPILS RECOMMENDED

After careful consideration we recommend that thirty pupils be provisionally adopted as the standard size of a recitation section. With that standard, sections could reasonably range from twenty-eight to thirty-three or thirty-five pupils.¹ This provisional standard is in accordance with the practice elsewhere in the country,² and has been arrived at by our staff and the principals of the high schools working independently of each other.

¹ These figures are for sections in those terms in which there are pupils enough to make two or more sections. In other terms, the sections must be organized as the situation requires.

² For example, the regulations of the North Central Association of Colleges and Secondary Schools.

HOW FAR IS THE PRESENT PRACTICE FROM THAT STANDARD?

To show the extent to which the size of sections in the high schools fails to approximate to the proposed standard of from twenty-eight to thirty-five pupils, the following table has been prepared. Table IX shows the per cent. of the sections in German in all terms which contain less than twenty-eight pupils, from twenty-eight to thirty-five pupils, and over thirty-five pupils:

TABLE IX

High Schools	Below 28 Pupils	28-35 Pupils	Over 35 Pupils
DeWitt Clinton.....	25.71	25.71	48.57
H. S. of Commerce.....	26.47	20.59	72.94
Stuyvesant.....	36.96	39.13	23.91
Wadleigh.....	37.50	29.17	33.33
Washington Irving.....	12.50	34.72	52.78
Morris.....	20.37	35.19	44.44
Girls'.....	27.50	42.50	30.00
Boys'.....	50.00	40.00	10.00
Erasmus Hall.....	48.15	40.74	11.11
Manual Training.....	26.56	51.56	21.88
Commercial.....	21.82	45.45	32.73
Eastern District.....	19.15	44.68	36.17
Bushwick.....	20.00	25.00	55.00
Bryant.....	13.33	53.34	33.33
Newtown.....	33.33	33.34	33.33
Flushing.....	71.43	21.43	7.14
Far Rockaway.....	66.66	16.67	16.67
Jamaica.....	33.33	38.39	27.78
Richmond Hill.....	54.54	31.82	13.64
Curtis.....	38.89	55.56	5.55
City.....	29.12	38.11	32.77

This table shows, for the city as a whole, that 29.12 per cent. of the sections in German contain less than twenty-eight pupils; that 38.11 per cent. contain from twenty-eight to thirty-five pupils, and that 32.77 per cent. contain more than thirty-five pupils. This table has not been introduced as a basis for criticising adversely the present organization

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of sections in the high schools. The high schools have been organized according to other standards; hence, it is natural that there should be no evident conformity to the standard of twenty-eight to thirty-five pupils set up in this table. The table has been introduced to show that much reorganization is necessary to approximate the standard which we have recommended.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Our findings concerning the size of sections¹ may be summarized as follows:

1. Large sections are due to
 - (1) The present official standard size—which is too large.
 - (2) The lack of the necessary teachers.
 - (3) In a few cases, a bad distribution of pupils by the principal.
2. Small sections are due to
 - (1) The inevitably small number of pupils in the upper terms of work.
 - (2) In a few cases, a bad distribution of pupils by the principal.

Hence, we recommend:

1. The adoption of a standard size of section of thirty pupils for all terms as a provisional standard to be tested in practice.
2. The employment of enough teachers to make it possible for principals to keep the size of sections reasonably within the limits of the standard—twenty-eight to thirty-five pupils.
3. A careful study by the principals of the subject of program-making, to the end that unnecessary over-size sections may be reduced, and unnecessary under-size sections may be avoided.

¹ For other factors which may affect the size of section, see p. 15.

The Work of Chairmen of Departments

CHAPTER VI

CLASSIFICATION OF TEACHERS

TEACHERS in the high schools of New York City are classified by rank as first assistants, assistant teachers, and junior teachers. For our purpose classification as (1) first assistants and (2) teachers¹ will be satisfactory.

FIRST ASSISTANTS

According to the by-laws of the Board of Education the term "first assistant" includes the old titles of head teacher, assistant to the principal, and vice-principal.² The by-laws³ define the duties of a first assistant as follows: "A first assistant shall, in addition to the work of instruction, assist the principal in matters relating to discipline, supervision, and administration, as may be necessary." Further, the by-laws provide that persons ranking as first assistants shall be assigned to chairmanships of departments as far as possible. The by-laws³ define the duties of a chairman as follows:

¹ The rank of junior teacher in the high school was not recognized in the "Equal Pay" Bill, passed in 1911.

² We have used the term, "chairman of department," instead of the logical one of first assistant, because the former term is more comprehensive. All first assistants are chairmen of departments, but, in the smaller high schools especially, there are chairmen of departments who are not first assistants. Inasmuch as one phase of our discussion is the amount of time given to supervision and direction of the work of other teachers by the chairmen of departments, it is important that the work of all chairmen be considered, whether they are first assistants or not.

³ Section 52, Paragraph 10, Page 68, By-laws of the Board of Education, 1909.

"A chairman of department shall, in addition to regular work in the classroom, organize and supervise the work of the other teachers of the department under the direction of the principal."

Briefly, the work of the first assistant may be classified as (1) instruction; (2) assistant to the principal in the administration of the school; and (3) administration, including supervision, of the work within a department of study.

TEACHERS

The principal assigns work to teachers in accordance with their respective licenses. Teachers may be temporarily assigned to classes in subjects other than those for which they hold licenses. The principal is permitted, by the by-laws, to assign to teachers such other duties, in addition to teaching, as he may see fit, subject to the approval of the City Superintendent. The work of a teacher, therefore, may be divided into (1) instruction, and (2) other assigned duties.

The size of the high schools in New York City makes inevitable a large amount of administrative work which has to be delegated by the principal to first assistants and teachers. The school day in the high school is divided into six recitation periods, except in the technical schools, in which there are seven periods. It is quite generally agreed that each high school teacher, of whatever rank, should have one free period per day for the preparation of his own work as a teacher. As a result, twenty-five periods per week has become the established standard of work for each teacher. This standard seems to us satisfactory. Hence, we suggest that, in proportion as a teacher is given administrative work, the number of teaching periods assigned should be correspondingly reduced. On the other hand, if a teacher is assigned the full number of twenty-five teaching periods, he ought not to be made responsible for other work.

PROVISIONS IN THE BY-LAWS¹

According to the by-laws of the Board of Education, the principal of a high school of any size is permitted, with the approval of the Board of Superintendents, to organize his school into departments of instruction. In schools with not less than twenty-five teachers the principal is permitted, with the consent of the Board of Superintendents, to assign to teachers the chairmanships of such departments for a period of one year. If there is a first assistant in the department, he must be made such chairman; otherwise, a regular teacher may be chairman.

Table X on page 40 gives a list of the high schools, the number of students, the number of teachers, and the number of first assistants in each.

The following facts concerning Table X should be particularly noted:

1. In the larger high schools (Group I) the number of first assistants ranges from six to nine for a school.

2. There is only one high school² (Far Rockaway) in New York City with less than twenty-five teachers, and, hence, nineteen out of the twenty high schools may have, upon recommendation of the principal and with the consent of the Board of Superintendents, chairmen of departments. Even in Far Rockaway High School, with only thirteen teachers, there is already a first assistant in commercial branches.

¹"The principal of each high school may organize, subject to the approval of the Board of Superintendents, departments of instruction in the several groups of subjects of the course of study. In schools having not less than twenty-five teachers the principal may assign, subject to the approval of the Board of Superintendents, a regular high school teacher to act as chairman of such department for a period not extending beyond the end of the school year in which said assignment is made. Persons holding the rank of first assistants shall be assigned as such chairmen as far as possible."—Section 52, Paragraph 10, Page 68, By-laws of the Board of Education, 1909.

²Bushwick High School has not yet been completely organized, so that there were no first assistants in the high school on March 31, 1911.

3. The small number of first assistants in the smaller high schools (Bryant, Newton, and Richmond Hill) indicates that the chairmanships of such department in these

TABLE X

High Schools	Number of Students	Number of Teachers	Number of First Assistants
GROUP I:			
DeWitt Clinton.....	3,173	108	9
High School of Commerce.....	2,006	68	9
Stuyvesant.....	2,148	95	7
Wadleigh.....	2,794	114	7
Washington Irving.....	3,804	137	6
Morris.....	3,365	121	8
Girls'.....	2,969	116	8
Boys'.....	1,834	77	7
Erasmus Hall.....	3,115	126	9
Manual Training.....	3,087	128	9
Commercial.....	2,399	100	8
Eastern District.....	2,766	93	7
GROUP II:			
Bushwick.....	929	32	0
Bryant.....	959	45	2
Newtown.....	776	28	1
Flushing.....	586	28	4
Far Rockaway.....	248	13½	1
Jamaica.....	983	41	6
Richmond Hill.....	756	34	2
Curtis.....	838	37	6

These figures were taken from the budget blanks filed by the principals of the high schools on June 12, 1911. The figures are for March 31, 1911.

For the purpose of later discussions, the high schools have been divided into two groups: I, those with more than 1,000 pupils, and II, those with less than 1,000 pupils.

schools are being assigned to teachers of a rank lower than that of first assistant.

Obviously there will be practically as many departments of instruction in one of these small schools as there are in a larger school, because the same courses of study are offered.

In fact, more courses (general, commercial, etc.) are usually offered in the smaller high schools than in the larger schools, so that the number of departments would be larger. Obviously, also, the number of teachers within a department in the smaller schools is comparatively smaller than in the larger schools.

CHAPTER VII

THE WORK OF CHAIRMEN AS TEACHERS

WORK AS A TEACHER (PERIODS OF TEACHING)

In the Larger High Schools

ACCORDING to a statement¹ made by Associate City Superintendent Stevens, principals of the larger high schools are directed to assign to chairmen of departments from twelve to fifteen periods of teaching, thus leaving them from ten to thirteen periods of time in which to organize and supervise the work of their departments and to perform such other duties as the principal may assign to them.

Table XI on page 43 shows the number of periods per week actually taught by chairmen of the departments of English, Latin, French and German, mathematics, biology, chemistry, physics, and history, in the high schools of New York City with more than 1,000 pupils.

Only five chairmen teach fewer than fifteen periods; the chairman of the English department in Morris High School teaches nine periods; the chairman of the history department in Manual Training High School teaches eight periods; the chairman of the mathematics department in Commercial High School teaches ten periods, and each devotes the remainder of his time to work in the general office. The chairman of the English department in the Girls' High School teaches fourteen periods, and the chairman of the mathematics department in Erasmus Hall High School teaches fourteen periods. Eighteen chairmen of departments are teaching fifteen periods. It will be seen, there-

¹ At a conference in his office, November 15, 1911.

fore, that seventy-two out of ninety-five chairmen of departments in these schools, or 75.7 per cent., are teaching more than the number of periods fixed as the maximum standard for chairmen in these large high schools.

TABLE XI—95 CHAIRMEN OF DEPARTMENTS

Chairmen	Number of Periods of Teaching																													
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							
English . . .	0	1	0	0	0	0	1	4	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Latin	0	0	0	0	0	0	0	2	2	0	0	1	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
Fr. & Ger. .	0	0	0	0	0	0	0	2	1	0	2	5	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mathem'cs	0	0	1	0	0	0	1	1	1	1	1	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Biology . . .	0	0	0	0	0	0	0	2	1	0	0	1	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Chemistry . .	0	0	0	0	0	0	0	2	1	1	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Physics . . .	0	0	0	0	0	0	0	3	0	0	1	0	3	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
History . . .	1	0	0	0	0	0	0	2	0	1	3	0	2	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	
Total . . .	1	1	1	0	0	0	2	18	7	4	9	10	29	3	3	2	3	0	1	0	1	0	1	0	0	0	0	0	0	

These figures were taken from the "Program of Daily Recitation" sheets furnished the Department of Education by the high school principals in February and March, 1911.

In the Smaller High Schools

Associate City Superintendent Stevens informed ¹ us that principals of the smaller high schools are directed to assign to chairmen of departments from fifteen to eighteen periods of teaching.

Table XII shows the number of periods per week actually taught by chairmen of the departments of English, Latin, French and German, mathematics, biology, chemistry, physics, and history, in the high schools of New York City with less than 1,000 pupils.

¹See note, p. 42.

TABLE XII—69 CHAIRMEN OF DEPARTMENTS

Chairmen	Number of Periods of Teaching																													
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							
English...	0	0	0	0	0	0	0	1	0	0	1	3	0	0	1	0	1	1	0	0	0	0	0	0						
Latin.....	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	1	4	0	0	0	0	0	0						
Fr. & Ger..	0	0	0	0	0	0	0	1	0	0	0	2	1	0	0	0	0	12	0	0	0	0	0	0						
Mathem'cs	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	2	0	2	0	1	0	0	0	0						
Biology...	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0	1	0	1	1	0	0	0						
Chemistry..	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	3	0	1	0	0	0	0						
Physics...	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0						
History...	0	0	0	0	0	0	0	1	0	0	1	0	0	1	2	2	0	0	0	0	0	0	0	0						
Total...	0	0	0	0	0	0	0	7	0	0	2	7	11	1	3	4	2	27	0	4	1	0	0	0						

These figures were taken from the "Program of Daily Recitation" sheets furnished the Department of Education by the high school principals in February and March, 1911.

There are no chairmen of departments in these smaller high schools teaching fewer than fifteen periods per week, and some chairmen are teaching as many as twenty-seven and twenty-eight periods. Nine of the sixty-nine chairmen teach eighteen periods or less; in other words, only 13.04 per cent. of the chairmen are teaching according to the above standard of fifteen to eighteen periods. It will be observed, therefore, that sixty out of sixty-nine chairmen, or 86.9 per cent., are teaching more periods per week than the number of periods fixed as the maximum standard for chairmen in these smaller high schools.

TIME LEFT FOR "OTHER ASSIGNED DUTIES"

In the Larger High Schools

A chairman of a department who teaches fifteen periods obviously has left ten periods of time which he may utilize in the discharge of such other duties as the principal may

assign to him, assuming a standard of twenty-five periods of work per week. Computing the whole number of such periods (from the figures given in Table XI, page 43), we find that ninety-five chairmen of departments in the twelve high schools with over 1,000 pupils have a total of 637 teaching periods of time left every week, or an average per chairman of 6.70 periods. This average of 6.70 periods per week per chairman, then, is the number of periods of time actually left to each chairman of department in which he may supervise the work of his department, and discharge such administrative duties as the principal may assign to him.

It should be recalled at this point that the standard teaching assignment, as fixed by Associate City Superintendent Stevens, contemplates that each chairman in these larger schools should have from ten to thirteen periods per week, or an average of 11.5 periods, in which to discharge other assigned duties. In view of the fact that chairmen are being allowed, in actual practice, only an average of 6.70 periods per week, it is clear that they are being allowed only 58.26 per cent. of the time this standard contemplates.

In the Smaller High Schools

Computing the whole number of periods of time remaining over and above the number of teaching periods assigned (based on Table XII, page 44), we find that sixty-nine chairmen of departments in the eight high schools with fewer than 1,000 pupils have a total of 193 teaching periods of such time left each week, or an average per chairman of 2.79 periods. This average of 2.79 periods per week is the amount of time left each week to each chairman of department in these smaller schools in which to supervise his department and to discharge such other administrative functions as the principal may assign to him.

The standard teaching assignment, as fixed by Associate City Superintendent Stevens, contemplates that each chair-

man in these smaller high schools shall have from seven to ten periods per week, or an average of 8.5 periods, in which to discharge other assigned duties. These chairmen are receiving, in actual practice, only an average of 2.79 periods per week for such work, or only 32.82 per cent. of the time the standard contemplates.

TEACHING AND STUDY HALL SUPERVISION

Of the "other assigned duties" which are given to chairmen of departments, charge of a study hall or class is the only one which can be stated in statistical form. The assignment is always a definite number of recitation periods per week, and, hence, the amount of time given to teaching and to study hall supervision by chairmen can be computed. It will be obvious that, as a result of this computation, we can ascertain the amount of remaining time within which chairmen may supervise their departments, and discharge such other administrative duties as may be assigned to them.

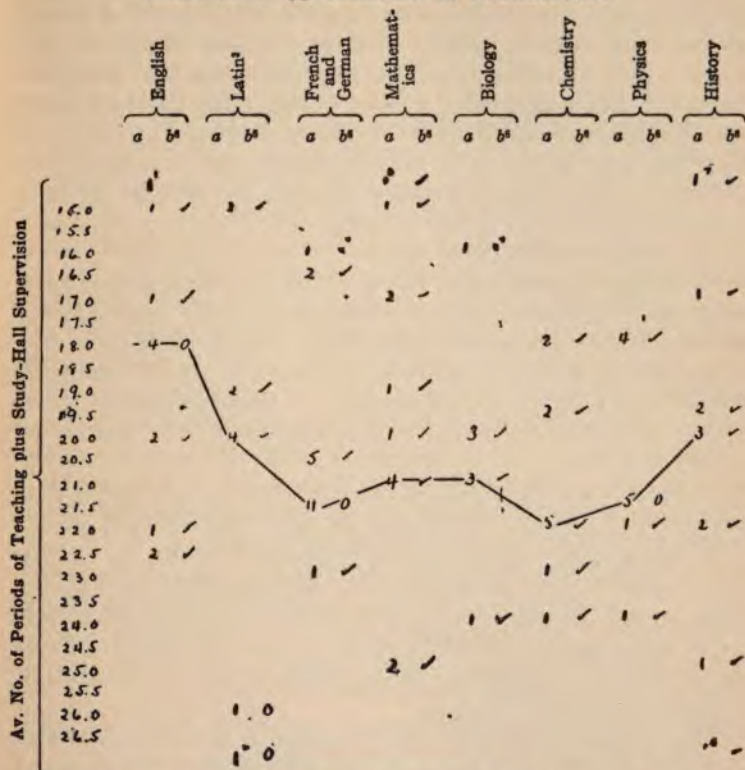
In the Larger High Schools

Table XIII on page 47 shows (1) the average number of periods of teaching per week plus study hall supervision, done by chairmen of departments, and (2) whether additional duties were assigned; in schools of over 1,000 pupils, in the February-June term, 1911.

The scale of figures at the left in Table XIII represents the average number of periods of teaching and study hall supervision. In column "a," under each one of the subjects, is given the number of chairmen who teach and supervise study hall, the average number of periods per week shown in the scale at the left of the table. Under column "b," "v" indicates that other duties¹ were assigned and "o" indicates that no other duties were assigned.

¹ These are duties other than those connected with the chairmanship of a department.

TABLE XIII—95 CHAIRMEN OF DEPARTMENTS

¹ = 9 periods² = No data³ = Data for Wadleigh High School⁷ = 8 periods⁴ = 36 periods⁵ = 10 periods

not clear, hence omitted

⁸ = 31 periods⁶ = Latin is not offered in the High School of Commerce and the Commercial High School

Inasmuch as the number of periods of teaching and the number of study periods vary among chairmen, the combined amount of teaching and study-hall supervision can be stated only in average numbers. For example: four chairmen of the English department teach eighteen periods each, but may be assigned a different number of study periods, say, one, two, three, and four periods respectively. The total number of study periods assigned is ten, with an average of 2.5 for each teacher. Eighteen periods of teaching, plus the average of 2.5 study periods, equals 20.5 periods, the average number of periods of definitely assigned teaching and study period work for each of these four teachers.

The line drawn through the table from left to right passes through the largest number of chairmen teaching and supervising study hall any given average number of periods per week. For example: four is the largest number of chairmen in English who teach and supervise study hall any average number of periods. This average number of periods of teaching and study hall supervision is eighteen. Hence, eighteen is the most frequent average number of periods of teaching and study hall supervision carried by chairmen of the English department.

There are, however, three chairmen in this department who teach nine, fifteen, and seventeen periods, respectively, and are assigned administrative duties besides. It should be noted, also, that there are five chairmen in this department who teach an average of twenty to twenty-two and five-tenths periods per week, and carry additional administrative responsibilities.

This line, which is drawn through the average number of periods of greatest frequency in each department, passes from an average of eighteen periods in English, to twenty periods in Latin, to twenty-one and one-half periods in French and German, to twenty-one periods in mathematics, to twenty-one periods in biology, to twenty-two periods in chemistry, to twenty-one and one-half periods in physics, to twenty periods in history.

It is important to note that, in nearly every case, chairmen of departments are assigned administrative duties, as indicated in column "b," in addition to the teaching assignment, the study hall assignment, and their duties as chairmen of departments.

We are now in a position to point out the amount of remaining time which each chairman of department has over and above his teaching and his study hall assignments. Computing the whole number of periods of such remaining time (from the same data from which Table XIII, page 47, was prepared), we find that ninety-five chairmen in the twelve

high schools with over 1,000 pupils, have a total of 443¹ periods of such remaining time each week, or an average per chairman of 4.66 periods. It has already been pointed out that the number of periods of teaching assigned to chairmen of departments would seem to imply that chairmen are allowed sufficient time in which to perform their other duties; but the assignment of so many study periods to chairmen consumes their time to such an extent that they have only an average of 4.66 periods per week over and above their teaching and study hall assignments in which to perform other assigned duties. Although it has been shown that each chairman has an average of 6.70 periods per week over and above his periods of teaching, this amount of time is reduced by an average of a trifle over two periods (2.04) per week of study hall supervision, so that each chairman really has 4.66 periods per week in which to perform other assigned duties.

Referring again to the standard set by Associate City Superintendent Stevens of an average of 11.5 periods per week for these other assigned duties, it will be clear that these chairmen have only 40.5 per cent. of the time this standard contemplates.

In the Smaller High Schools

Table XIV on page 50 shows (1) the average number of periods of teaching per week plus study hall supervision, done by chairmen of departments, and (2) whether additional duties were assigned, in schools of less than 1,000 pupils, in the February-June term, 1911.

This table² shows, for the smaller high schools, what

¹In this computation, all decimals were avoided. Those averages with decimals falling between 1. and .4 inclusive were grouped with the next lowest whole number; those averages falling between .5 and .9 were grouped with the next highest whole number. For example, an average of 16.3 was grouped with the average 16.0 and 16.7 with 17.0.

²For an explanation of how this table was prepared see p. 47.

TABLE XIV—69 CHAIRMEN OF DEPARTMENTS

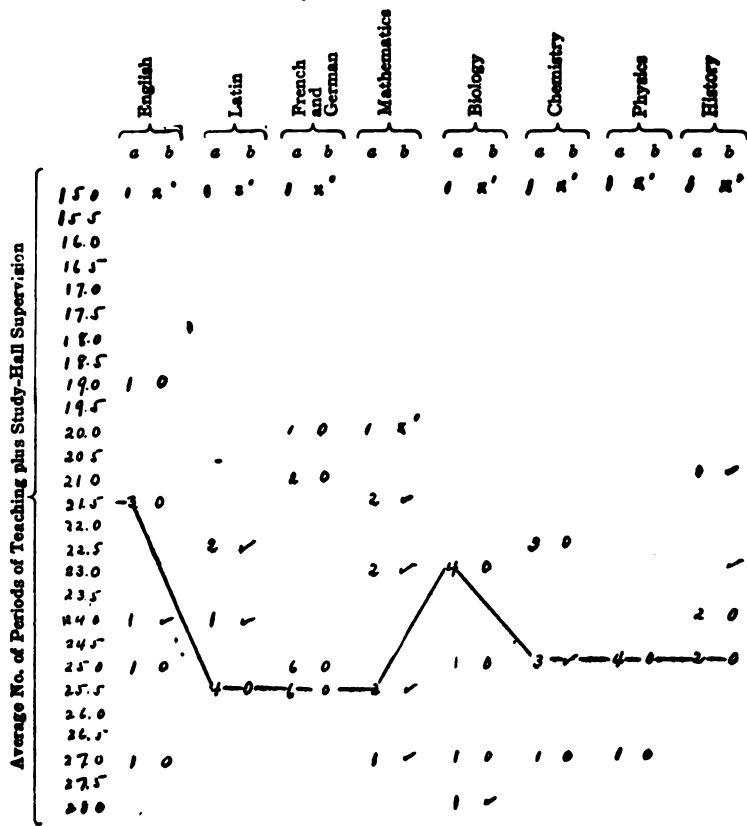


Table XIII shows for the larger high schools. The line which is drawn through the average number of periods of greatest frequency in each department passes from an average of twenty-one and five tenths periods in English, to twenty-five and five tenths periods in Latin, French and German, and mathematics, to twenty-three periods in biology, to twenty-five periods in chemistry, physics, and history.

Attention should be called to the fact that the chairmen in these smaller high schools are more generally free from responsibility for administrative duties than are the chairmen in the larger high schools.

Table XIV brings out the fact that the work of eighteen chairmen in teaching and supervision constitutes an average of one period per week more work than regular teachers are expected to carry. Furthermore, thirty-five out of sixty-nine chairmen, or more than 50 per cent., are teaching and supervising study periods as much or more than the standard of twenty-five periods per week for regular teachers, leaving no time whatever for supervision of the work of other teachers in their departments.

Computing the average number of periods of remaining time which a chairman of department has over and above his teaching and study hall assignments, we find that sixty-nine chairmen have a total of 116 such periods, or an average of 1.68 periods per chairman in each high school with less than 1,000 pupils. Even though chairmen of departments in these smaller high schools are assigned teaching so that each chairman has an average of 2.79 periods per week for other duties, the study hall assignments consume so much of that time that each chairman has an average of only 1.68 periods per week in which to supervise his department and to perform such other administrative functions as the principal may assign to him. This amount of time is only 19.76 per cent. of the time contemplated by the established standard.

SUMMARY

We have shown that:

1. Over 75 per cent. of the chairmen in the larger high schools are teaching more periods per week than the maximum standard fixed by Associate City Superintendent Stevens.

2. Over 86 per cent. of the chairmen in the smaller high schools are teaching more periods per week than the standard fixed by Associate City Superintendent Stevens for schools of this size.

3. Teaching assignments to chairmen of departments in the larger high schools take so much of their time that each is left only 58.26 per cent. of the time the standard fixed by Associate City Superintendent Stevens contemplates.

4. Teaching assignments to chairmen of departments in the smaller high schools take so much of their time that each is left only 38.82 per cent. of the time the standard fixed by Associate City Superintendent Stevens contemplates.

5. Teaching and study hall supervision done by chairmen in the larger high schools consume so much time that chairmen have only 40.5 per cent. of the time for supervision and administrative work that the standard fixed by Associate City Superintendent Stevens contemplates.

6. Teaching and study hall supervision done by chairmen in the smaller high schools consume so much time that chairmen have only 19.76 per cent. of the time for supervision and administrative work that the standard fixed by Associate City Superintendent Stevens contemplates.

STANDARD TEACHING ASSIGNMENTS FOR CHAIRMEN
OF DEPARTMENTS

Thus far we have measured the practice in the various high schools of New York City by the standards generally

agreed upon by the school authorities, or those definitely fixed by Associate City Superintendent Stevens. Are these standards satisfactory?

1. The first standard which we have used is one quite generally agreed upon throughout the country, and in the city, but one which is not definitely incorporated in the by-laws or regulations of the Board of Education, or of the Board of Superintendents, viz., that twenty-five periods of teaching should constitute a week's work.

2. The second standard is one fixed by Associate City Superintendent Stevens, and provides that the chairmen of departments in the larger high schools should teach from twelve to fifteen periods, and should devote the remainder of their time to the supervision of their departments and such other administrative work as the principal may assign to them.

3. The third standard also is fixed by Associate City Superintendent Stevens, and provides that the chairmen in the smaller high schools should teach from fifteen to eighteen periods per week, and should devote the remainder of their time to other assigned duties, as in the case of chairmen in the larger schools.

There are no well-established standards in the above cases. After visiting the schools, after many conferences with principals, first assistants and teachers, in view of the practice in other cities, and in view of the responsibility devolving upon the chairmen of departments in the high schools of New York City, we conclude that these standards are just, and should, therefore, be approximately maintained in practice.

CHAPTER VIII

THE WORK OF CHAIRMEN AS ADMINISTRATIVE OFFICERS

WORK AS ASSISTANT TO PRINCIPAL

BEFORE the consolidation of the school system under the charter establishing Greater New York there were various administrative officers in the different high schools, known as head teacher, vice-principal, and assistant to the principal. These special titles were not recognized in the educational section of the new charter, but, by definition by the Board of Education, they have been included under the title of first assistant.¹ Thus first assistants in the high schools have become assistant administrative officers.

SCOPE AND CHARACTER

The following topics ² indicate the scope and character of the work of a first assistant ³ as an assistant to the principal in the administration of the school:

1. Consulting with the principal in regard to the course of study and the educational policy of the school and general school problems.
2. Handling discipline in the school.

¹ The functions of the first assistants as chairmen of departments will be considered later. See p. 55.

² These topics and the topics concerning work of chairman on p. 57 were furnished by a Committee of The Male First Assistants' Association.

³ The term first assistant is used here instead of the term chairman of department, because it is "first assistant" that the chairman of department acts as an assistant administrative officer rather than because he is chairman of department.

3. Reporting to the principal on the success of class and examination work.
4. Rating of teachers for the information of the principal.
5. Supervision of the fire drill.
6. Supervision of college entrance requirements and examinations.
7. Supervision of school activities—school paper, athletics, literary and other societies, exhibitions, parents' meetings.

In addition to these executive, supervisory, and administrative duties assigned to first assistants by the principal, other responsibilities are carried by them. Nearly every chairman of a department is in charge of an official class;¹ this means that he records the daily attendance, noting admissions and discharges, reports absences to the principal, sends notices to the parents of pupils who are absent, and, in general, has charge of the class. The chairman or first assistant also keeps all permanent records of the progress of the pupils in the official class during each term. In most of the high schools, as has already been shown, they are also assigned the supervision of study halls, on an average of 2.04 periods per week in the larger high schools and 1.11 periods in the smaller schools. In addition, first assistants are usually placed in charge of different floors or halls throughout the school during the intermission between classes, before and after school, and during the noon period.

WORK AS CHAIRMAN OF DEPARTMENT

Responsibilities of the Chairman of a Department

As has already been stated, the chairman of a department is responsible for organizing and supervising the work of

¹ For a more extended account of the work of a teacher in charge of an official class, see p. 82.

teachers in his department. Inasmuch as he has to determine the efficiency of the teachers, he also has general supervision of the progress of the pupils. Table XV shows the number of pupils and the number of teachers (exclusive of chairmen) in the departments of English, biology, Latin, and mathematics in the twenty high schools of New York City.

TABLE XV

High Schools	English		Biology		Latin		Mathematics	
DeWitt Clinton.....	2946	18	1426	9 $\frac{1}{2}$ ¹	1110	7 $\frac{1}{2}$ ¹	2549	16 $\frac{1}{2}$ ¹
H. S. of Commerce.....	1933	9	1031	4	.....	.....	1771	7
Stuyvesant.....	2229	11 $\frac{1}{2}$ ¹	.....	.....	531	4	2088	12
Wadleigh.....	2779	17 $\frac{1}{2}$	1177	10	1666 ¹	14	2300	16
Washington Irving.....	3804	25	760	3	235 ²	2	1361	8
Morris.....	3225	20	1115	6 $\frac{1}{2}$ ¹	1710	10 $\frac{3}{8}$ ¹	2619	14
Girls'.....	2969	16	1230	9	1717	13	2550	16
Boys'.....	1834	13	795	5	1741	11	1827	11
Erasmus Hall.....	3015	22 $\frac{1}{2}$ ¹	1172	11	2804 ¹	22	2478	15 $\frac{1}{2}$ ¹
Manual Training.....	2840	17 $\frac{1}{2}$ ¹	1437	7	1370	11	2790	18
Commercial.....	2399	15	781	4	.....	.....	2399	7
Eastern District.....	2766	12 $\frac{1}{2}$ ¹	665	3 $\frac{1}{2}$ ¹	1247	6 $\frac{1}{8}$ ¹	1713	9
Bushwick.....	929	5	816	3	265	3	929	3
Bryant.....	945	6 $\frac{1}{2}$ ¹	340	1	238	1 $\frac{3}{8}$ ¹	736	2
Newtown.....	776	3 $\frac{1}{2}$	205	1 ³	235	1	453	1 $\frac{1}{2}$ ³
Flushing.....	580	3	210	³ 1 $\frac{1}{2}$ ¹	289	2	402	2
Far Rockaway.....	248	³ 1 $\frac{1}{2}$ ¹	69	³ $\frac{1}{2}$ ¹	100	³ 1 $\frac{1}{2}$ ¹	144	1 ³
Jamaica.....	920	5	222	1	393	2 $\frac{1}{2}$ ¹	485	3
Richmond Hill.....	751	5	119	1	273	2	369	2
Curtis.....	878	4	331	1 $\frac{1}{2}$ ¹	364	2 $\frac{1}{2}$ ¹	771	4 $\frac{1}{2}$

¹ Including Greek.

² No chairman.

³ One, and less than two, whole teachers in the department.

These figures were taken from the budget blanks filed by the principals of the high schools on June 12, 1911. The figures are for March 31, 1911

This table shows the responsibility carried by chairmen of departments in the high schools of New York City. For example: in the Girls' High School, in the English depart-

ment, there are 2,969 pupils and sixteen teachers; in biology there are 1,230 pupils and nine teachers; in Latin there are 1,717 pupils and thirteen teachers; in mathematics there are 2,550 pupils and sixteen teachers. These figures show that the chairman of one of these departments carries as large a responsibility as the principal of most high schools throughout the country; and it should be added that few principals are called upon to do any teaching.

The chairman of a department in the main building of a school which has annexes is also responsible for the work of his department in the annexes. In many cases, however, the annex is so far from the main building that several hours are necessary to make the trip and visit any classes. It can be readily seen, therefore, that a head of department needs a large amount of time to discharge properly this responsibility. As far as we have been able to ascertain, there is not much supervision of the work in the annexes by heads of departments in the main building. This is one of the inevitable results of the system of "annexes" which exists in New York City.

The following topics indicate the scope and character of the work of the chairman of a department:

1. Supervision of class teaching.
2. Maintenance of an *esprit de corps* in the department.
3. Outlining of class work and ground to be covered.
4. Setting of examination papers for examinations within the school and supervision of correction. Re-reading the doubtful papers. Supervision of "condition" examinations.
5. Conducting regents' examinations—program, care of record, correspondence, recording marks, rereading doubtful papers.
6. Consulting with students in regard to program.
7. Directing and presiding at departmental meetings once a month.

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8. Making arrangements for classes during the absence of teachers.
9. Making requisitions for apparatus, text-books, and supplies.
10. Supervision of the distribution, collection, and care of text-books.
11. Supervision of the yearly inventory of books, apparatus, and supplies.

We agree with the chairmen of departments in saying that the most important function of those enumerated above is the supervision of class teaching and the general direction of the work of the department. In order that chairmen of departments may have the time in which to supervise and direct the work of the department (and to perform other assigned administrative work) they are relieved of teaching.¹ However, they state that altogether too little supervision of classroom instruction is being done, owing to the fact that their time is taken up with so many general administrative duties.² Failure to perform these administrative duties assigned by the principal is apparent at once, and hence it is but natural that first assistants should give the administrative duties first consideration rather than slight them to supervise the work of teachers. The supervision can be neglected without evil effects becoming apparent at once, or even for a considerable time. The teachers naturally make no complaint if they are not supervised and criticized, and the result is that supervision, rather than especially assigned administrative duties, is neglected.

Bad Results from Lack of Supervision

It is agreed among chairmen of departments that there is need of much more supervision than they are able to carry

¹ For amount, see p. 42 and the discussion following.

² For a list of these administrative duties, see p. 54 and the discussion following.

on under present conditions. Some of the most serious results of the lack of adequate supervision are the following:

1. "Snap judgments" have to be made by first assistants because they are required to judge the efficiency of instruction given by teachers without adequate time for securing information upon which to base a judgment.

2. Lack of coherence arises in the work of a department as to policy and methods of instruction. Young teachers need to be trained in order to coöperate properly with other teachers in the department. A chairman of a history department stated that there had been an entire change of the five teachers in his department within the last five years.

3. Substitutes temporarily employed cannot be given necessary help to insure the satisfactory progress of their pupils.

4. Lack of supervision results in dilatory methods on the part of teachers.

5. Inability to give adequate supervision makes it impossible for the chairman to disseminate good teaching throughout the department.

6. Uniformity in grading and promoting pupils by the teachers of the department cannot be secured unless proper supervision exists.

It should be further noted that a large amount of clerical work devolves upon the chairmen of departments, which many of them through pressure of time are driven to pay for having done for them. This clerical work is not the same in all schools, but the following list indicates the reports and other clerical work which are required of first assistants in one or more of the high schools of the city: monthly report, annual report, regents' report, special reports to the City Superintendent, associate city superintendent, district superintendent, and others, training school certificates, certificates of completion of the course for the

candidates for graduation who fail to secure diplomas, payrolls and checks, list of pupils in new grades at end of the term, preparing copies of questions for examinations.

Many of these duties are performed wholly or in part by assistant teachers also. The objectionable feature is the same, whether performed by a first assistant or a teacher. This work might be performed as well by less highly paid employees, and the time of teachers devoted to teaching or supervision.

The undesirable results of the present arrangement for clerical work may appear in either, or both, of the following ways:

1. Time may be formally assigned to such teachers as perform these services, and credited on the school program. For example: on the present program of the Flushing High School twenty periods are formally assigned for such work which, with other duties of the same nature, takes the full time of one teacher. In other words, the school might be conducted with one less assistant teacher, salary \$2,500, if there were a clerical assistant, salary \$1,250. Further, the work performed by such a clerical assistant would be much more efficient, since the clerical assistant would render continuous service for seven hours a day, while the time of teachers consists of scattering periods of forty-five minutes at a time, with a total of about four hours a day, as the equivalent of one teacher's time.

2. If time is not formally allowed on the school program for any of these duties, but they are, nevertheless, performed by teachers, the result is necessarily a lessened efficiency in the performance of professional duties. In other words, the time taken for these general duties lessens the amount of time which each teacher needs to maintain his class work at the maximum efficiency.

If all the duties that could as well be performed by a clerical assistant were so assigned, either more periods of

teaching could be assigned to teachers than at present without lowering the present efficiency of instruction, or the present standards of efficiency in teaching could be raised; in either case the expense to the city would be decreased.

Time Needed for Supervision

In view of the testimony of chairmen of departments in the New York City high schools, and the general practice in other cities, we conclude that a chairman of a department should spend at least two periods per month in the classroom of each teacher. At least so much is needed to gather the information necessary to enable him to make constructive criticisms of the teaching, and to supervise the progress of pupils. This is the present practice in some of the high schools of the city. It seems to be a satisfactory minimum, because:

1. One who supervises, for purposes of constructive criticism of and helpfulness to the teacher, should spend the whole of a recitation period in the classroom, in order that he may see the lesson as a whole.

2. Judgment of a teacher's ability should not be based upon observations made during a single recitation, whether the result is favorable to the teacher or otherwise.

3. The chairman of a department should make at least two visits per month to each class for the purpose of observing the progress of pupils.

4. Most of the high schools of New York City are so large that it is practically impossible for the principal to visit each teacher enough to enable him to make the constructive criticisms which should grow out of supervision. Twelve of the twenty high schools of New York City have sixty or more teachers. In a school of sixty teachers it would take the principal twelve weeks to visit each teacher once, if he systematically visited one period each day during that time. Demands upon the principal's time in these

large schools are so great that he is prevented from doing much systematic visiting of classes. Therefore, it becomes exceedingly important that heads of departments have sufficient time for this supervision, and, further, the time for doing it effectively.

To allow each chairman two periods per month for each teacher in his department would not reduce the amount of teaching which chairmen of departments are now doing. On the contrary, the total amount of teaching done by chairmen of the department of English, for example, under the proposed plan, would exceed the number of periods of teaching now done by these same chairmen by exactly one period each. But, as will be pointed out later, it will be necessary to reduce the amount of clerical and administrative work which chairmen of departments are now doing, in order to give them the amount of time necessary for proper supervision. As will also be pointed out later, this work should be performed by clerks and teachers who draw much lower salaries than chairmen of departments.

This plan has the distinct advantage of fixing much more definitely than is now fixed a reasonable amount of time for supervisory purposes. Further, it fixes this amount of time for supervision in accordance with the number of teachers in the department to be supervised.

Table XVI on page 63 shows (1) the number of periods of teaching done by the chairmen of the department of English in each of the high schools of New York City; (2) the number of teachers in the department, exclusive of chairmen; and (3) approximately the number of periods of teaching which each chairman would do under the proposed plan.

From the following table it will be readily seen that it is not the amount of teaching which chairmen are now doing that interferes with the supervision of their departments, because, as has been shown, they are relieved from enough teaching at present to supervise in a satisfactory manner. What interfere with their supervision and teaching are

TABLE XVI

High Schools	a	b	×	c ¹
DeWitt Clinton.....	15	18	(20)	15
H. S. of Commerce.....	16	9	(10)	20
Stuyvesant.....	18	11 $\frac{1}{2}$	(12)	19
Wadleigh.....	15	17 $\frac{1}{2}$	(20)	15
Washington Irving.....	15	25	(25)	12
Morris.....	9 ²	20	(20)	15
Girls'.....	14	16	(16)	17
Boys'.....	19	13	(14)	18
Erasmus Hall.....	15	22 $\frac{1}{2}$	(25)	12
Manual Training.....	19	17 $\frac{3}{10}$	(20)	15
Commercial.....	17	15	(15)	17
Eastern District.....	20	12 $\frac{1}{2}$	(14)	18
Bushwick.....	24	5	(6)	22
Bryant.....	19	6 $\frac{5}{10}$	(8)	21
Newtown.....	22	3 $\frac{3}{5}$	(4)	23
Flushing.....	19	3	(4)	23
Far Rockaway.....	25	1 $\frac{3}{10}$	(2)	24
Jamaica.....	15	5	(6)	22
Richmond Hill.....	19	5	(6)	22
Curtis.....	18	4	(4)	23
Totals.....	353	.....	.....	373

¹ Column "c" contains figures which show approximately the amount of teaching which the chairman of the department of English in each of the high schools would do under the proposed plan. These figures are only approximate because of the nature of the computation. For example: in DeWitt Clinton High School the chairman of a department of eighteen teachers would be allowed thirty-six periods per month for supervision. There are twenty teaching days in each month. Hence, each day the chairman would have 1.8 periods, if the computation is made exact. It will be clear that, under these circumstances, one fifth of a period, or nine minutes, could not be as profitably spent at anything else as it could be in supervision.

Therefore, the figure in column "c" is the one based upon such a number of teachers in the department as will make unnecessary the division of a period between supervision and other work. This figure for DeWitt Clinton High School is twenty. The figures in column "×," on which these approximations were based, were included to show, first, the basis of the computation for the figures in column "c," and, second, that the computation was always for a number of teachers equal to or greater than the number now employed as indicated in column "b."

² The chairman of the English Department has charge of the general office work of the school.

their assignments of study hall supervision; the amount of clerical work connected with the administration of their several departments; and, most seriously of all, the necessity on their part of assuming obligations for some of the general administrative work of the school as a whole. The importance of all this work cannot be minimized and some of it requires high executive ability. A large part of it, however, could be performed by teachers who draw less salary, and a considerable part of it could be performed by a moderately salaried clerk. Chairmen of departments should be relieved from this work in order that their energies may be spent in the higher services of supervision and direction of class teaching, and the performance of the more important duties connected with the general administration of the school.

CONCLUSIONS AND RECOMMENDATIONS

In view of the foregoing, the following recommendations are made:

1. The chairman of a department should, as in the case of other teachers, be allowed one free period each day.
2. The chairman of a department should be allowed two periods each month for the classroom visits and supervision of each teacher in his department.
3. If the chairman of a department is assigned administrative duties (as first assistant), his number of teaching periods should be correspondingly reduced, in order that he may still have the required amount of time for the satisfactory supervision of his department.
4. The chairman of a department should be relieved, as far as possible, from all purely clerical work, which work should be performed by additional clerks.
5. First assistants should be relieved, as far as possible, from supervising study halls, and, except occasionally, also from an official class, in order that their time may be devoted to a higher grade of professional work.

The Work of Other Teachers

CHAPTER IX

PERIODS OF TEACHING AND STUDY HALL SUPERVISION

THE work of a teacher¹ may be twofold—(1) periods of teaching and (2) other assigned duties.

In the time at our disposal it has been necessary to limit our study of the amount of teaching and other work done by teachers to the departments of English, German, mathematics, biology, and history. Our purpose has been, on the one hand, to limit the scope of the study sufficiently to cover only essential details, and, on the other hand, to make it sufficiently comprehensive to cover typical work done by the teachers in the high schools throughout the system. The departments named have been selected because (1) they are found in nearly all the high schools; (2) they are representative of the different departments of study in the high school; (3) they cover subjects which are required only in the first year, and subjects which are offered only beyond the first year.

PERIODS OF TEACHING

Teachers of English, German, Mathematics, Biology, and History

Table XVII shows the number of periods taught by teachers (exclusive of chairmen) of English, German, mathematics, biology, and history in all the high schools.

¹ The word "teachers" is used in this section of the report to include all teachers below the rank of chairman of department, whether that chairman was a first assistant or not. In a few cases, in the smaller high schools, where there was only one teacher in a department, the number of periods of teaching of that teacher have been included.

TABLE XVII—671 TEACHERS—MAIN BUILDINGS AND ANNEXES

Teachers	Number of Periods of Teaching																												
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 ²		
English.....	0	0	1	0	0	0	0	0	1	2	0	0	0	0	10	6	13	25	52	43	28	11	8	22	2	0	1	1	0
German.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	30	1	1	7	14	57	0	0	2	0	0	0
Mathematics.....	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	7	24	19	11	22	33	45	4	3	1	0	0	0
Biology.....	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	3	4	32	1	3	6	0	19	0	1	1	0	0	0
History.....	0	0	0	1	0	0	0	0	0	0	0	0	0	3	5	2	13	30	9	3	5	2	0	0	0	0	0	0	0
Total.....	1	0	1	1	0	0	0	0	1	2	0	0	6	17	9	24	42	151	94	52	49	60	145	6	4	5	1	0	0

¹ These figures were taken from the "Program of Daily Recitation" sheets furnished the Department of Education by the high school principals for the February-June term, 1911.

The "Program of Daily Recitation" sheets of the Annexes of the Girls' High School were not sufficiently clear to be accurately interpreted, hence the data were not included in this table, or in subsequent tables on the work of teachers.

² One teacher teaching 34 periods omitted.

This table shows great variation in the number of periods of teaching done by teachers in the departments named:

In English the number of teaching periods per teacher ranges in the several groups from a minimum of six to a maximum of thirty-four periods. The number of periods most frequently taught by any group of English teachers is twenty.

In German the number of teaching periods per teacher ranges in the several groups from a minimum of eighteen to a maximum of twenty-eight periods. The number of periods most frequently taught by any group of German teachers is twenty-five.

In mathematics the number of teaching periods per teacher ranges in the several groups from a minimum of four to a maximum of twenty-eight periods. The number of periods most frequently taught by any group of mathematics teachers is twenty-five.

In biology the number of teaching periods per teacher ranges in the several groups from a minimum of fifteen to a maximum of twenty-eight periods. The number of periods most frequently taught by any group of biology teachers is twenty.

In history the number of teaching periods per teacher ranges in the several groups from a minimum of seven to a maximum of twenty-five periods. The number of periods most frequently taught by any group of history teachers is twenty-one.

It will be seen that the number of periods most frequently taught by any group of teachers in each department is as follows:

Teachers of English.....	20 periods
" German.....	25 "
" Mathematics.....	25 "
" Biology.....	20 "
" History.....	21 "

Twenty periods of teaching per week is the number of periods most frequently taught by any of the 671 teachers

in these departments—151 teachers are teaching that number. It should be noted, however, that almost as many, or 145 teachers, are teaching twenty-five periods per week.

The following computations are based on Table XVII:

15.50%	are teaching less than 20 periods
22.50%	" " " " 20 "
14.01%	" " " " 21 "
7.75%	" " " " 22 "
7.30%	" " " " 23 "
8.94%	" " " " 24 "
21.61%	" " " " 25 "
2.39%	" " more " 25 "
<hr/>	
100.00%	

Table XVII shows that 82.11 per cent. of the teachers under consideration are teaching from twenty to twenty-five periods; that 15.50 per cent. are teaching less than twenty periods; and that 2.39 per cent. are teaching more than twenty-five periods.

It would be wrong to conclude that teachers are doing too little teaching, even though the figures in Table XVII do show that 15.50 per cent. of the 671 teachers are teaching less than twenty periods. Some teachers are doing work in the general office, or are responsible for other administrative work; and this work they cannot do unless their number of periods of teaching is correspondingly reduced. Further, teachers are usually assigned study hall supervision and other additional duties (these additional duties will be discussed later; see page 80 and ff.); hence, this work must be considered, together with the teaching, before any valid conclusion can be reached concerning the amount of work which teachers are doing.

Teachers of English Separately

Associate City Superintendent Stevens directs¹ that teachers of English be assigned twenty or twenty-one periods of teaching per week, and all other teachers from

¹ See note, p. 42.

twenty to twenty-five periods. It is necessary, therefore, to differentiate between teachers of English and teachers in other departments in order to measure the practice in schools by these standards.

Table XVIII (see page 72) shows the number of periods taught by 226 teachers in the departments of English in all the high schools.

This table shows that, of the 226 teachers of English, fifty-eight, or 25.6 per cent., are teaching less than twenty periods; that seventy-three, or 32.3 per cent., are teaching more than twenty-one periods; and ninety-five, or 42 per cent., are teaching twenty or twenty-one periods—the standard fixed by Associate City Superintendent Stevens. The most frequent number of periods taught by any group of teachers of English is twenty; about four fifths as many teachers are teaching twenty-one periods.

Since only 42 per cent. of the teachers are teaching according to the established standard, it is natural to ask: Why does not the practice in the schools conform more closely to that standard? It is clear that, if the instruction in English entails so much more labor than instruction in other subjects as to require a lower maximum standard by four periods of teaching than the standard for other teachers, the schools ought not to require 32 per cent. of the teachers of English to teach more than that maximum standard. If twenty-one periods are considered by the Department of Education as a maximum standard, in the same sense that twenty-five periods are considered a maximum standard for other teachers, the Department should provide enough teachers of English to make it possible to maintain approximately that standard.

On the other hand, why are 25.66 per cent. of the 226 teachers of English teaching fewer than twenty periods? It is the practice to assign relatively more periods of study hall supervision to teachers of English to give them the opportunity during that time to correct some of the many

TABLE XVIII—226 TEACHERS OF ENGLISH—MAIN BUILDINGS AND ANNEXES

		Number of Periods of Teaching																													
		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
Number of teachers.....		0	0	1	0	0	0	0	1	2	0	0	0	0	10	6	13	25	52	43	28	11	8	22	2	0	1	0			

TABLE XIX—445 TEACHERS OF GERMAN, MATHEMATICS, BIOLOGY, AND HISTORY—MAIN BUILDINGS AND ANNEXES

Teachers	Number of Periods of Teaching																													
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
German	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	30	1	1	7	14	57	0	0	2	0	0			
Mathematics.....	1	0	0	0	0	0	0	0	0	0	0	2	1	0	1	7	24	19	11	22	23	45	4	3	1	0	0			
Biology.....	0	0	0	0	0	0	0	0	0	0	0	4	3	1	3	4	32	1	3	6	0	19	0	1	1	0	0			
History.....	0	0	0	1	0	0	0	0	0	0	0	0	3	3	5	2	13	30	9	3	5	2	0	0	0	0	0			
Total.....	1	0	0	1	0	0	0	0	0	0	0	6	7	3	11	17	99	51	24	38	52	123	4	4	4	0	0			

papers which fall to the lot of such teachers. This statement will receive further discussion later.

Table XVIII shows that only 42 per cent. of the teachers of English are teaching according to the standard fixed by Associate City Superintendent Stevens.

Teachers of German, Mathematics, Biology, and History

Table XIX shows the number of periods taught by 445 teachers in the departments of German, mathematics, biology, and history in all the high schools. (See page 72.)

Of these 445 teachers, forty-six teachers, or 10.3 per cent., are teaching less than twenty periods, the minimum standard fixed by Associate City Superintendent Stevens; twelve teachers, or 2.7 per cent. of the total number, are teaching more than twenty-five periods, the maximum standard established by Associate City Superintendent Stevens; 387 teachers, or 86.96 per cent. of the total number, are teaching from twenty to twenty-five periods. In other words, practically 87 per cent. of the teachers are assigned teaching in accordance with the established standard. The most frequent number of periods taught by any one group of teachers is twenty-five periods, with about three fourths as many teachers teaching twenty periods.

TEACHING AND STUDY HALL SUPERVISION

Teachers of English, German, Mathematics, Biology, and History

Of the other assigned duties, study hall supervision is the only one which can be stated in terms of teaching periods. Inasmuch as it occupies regularly a considerable portion of the teachers' time, it should be considered.

Table XX (see page 74) shows the average number of periods of teaching and study hall supervision done by 671 teachers in the departments of English, German, mathematics, biology, and history in the high schools of New York City.

TABLE XX¹

671 Teachers

Main Buildings and Annexes

		Number of Teachers of										
		English		German		Mathematics		Biology		History		
		a	b	a	b	a	b	a	b	a	b	
Average Number of Periods of Teaching plus Study-Hall Supervision	16.0					1	✓		1	✓	2	
	16.5								4	✓		
	17.0											
	17.5					2	✓		2	✓	4	✓
	18.0											
	18.5											
	19.0											
	19.5	5	✓									
	20.0											
	20.5	2	✓									
	21.0											
	21.5											
	22.0					0	✓		12	✓	2	✓
	22.5	22	✓			4	0					
	23.0	1	0	2	0	10	✓		1	0	1	0
	23.5	13	✓			15	✓				13	✓
	24.0	47	✓	7	✓	2	✓		4	0	5	✓
	24.5	40	0						3	✓	40	0
	25.0	36	0	36	0	31	✓		20	✓	2	✓
	25.5	14	✓	42	0	49	0		16	0		
	26.0	4	✓			22	✓		3	0		
	26.5											
	27.0	32	✓	15	✓	9	0				2	✓
	27.5					21	✓		6	0		
	28.0	2	0	11	0	7	✓					
	28.5	4	0	2	✓						5	✓
	29.0	1	0	1	✓						1	0
	29.5											
	30.0	1	0						5	✓		
	30.5			2	0							
	31.0											
	31.5	21	✓									
	32.0	5	✓									
		225 ✓		118 0		173 ✓		77 ✓		75 0		
		#1—1 with 34.		#2—1 with 4.		#3—1 with 7.						

¹ For an explanation of the method according to which this table was prepared, see footnote accompanying Table XIII, page 47.

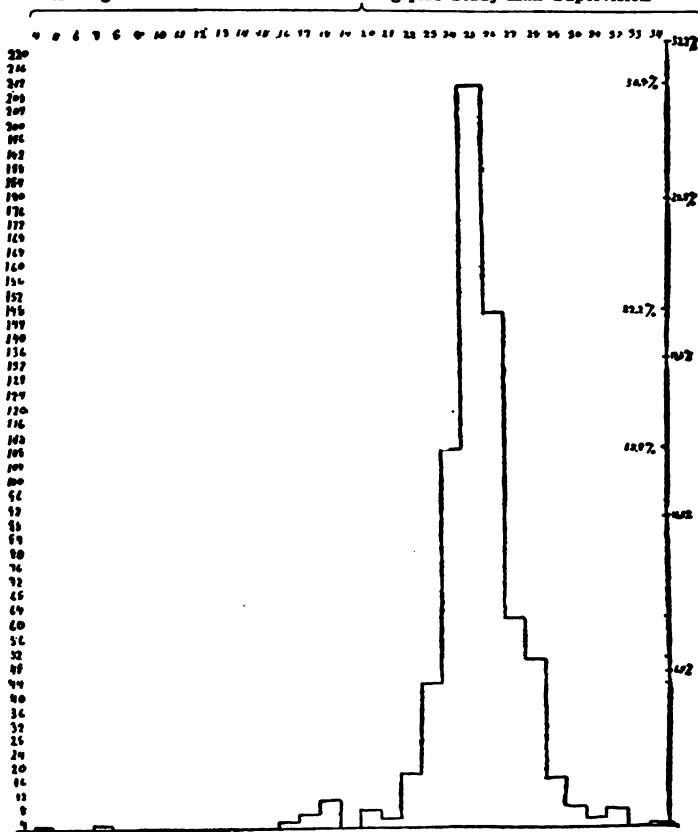
The line drawn through this table, from left to right, passes through the largest number of teachers in each department who teach and supervise study hall any given average number of periods. This line passes from an

DIAGRAM

671 Teachers

Main Buildings and Annexes

Average Number of Periods of Teaching plus Study-Hall Supervision



average of twenty-four periods of teaching and study hall supervision in English, to twenty-five and one half periods in German, to twenty-five and one half periods in mathematics, to twenty-five periods in biology, to twenty-four and one half periods in history. It should be noted that nearly all the teachers of English teach and supervise study hall from an average of twenty-two and one half to twenty-seven periods per week, while the average amount of teaching and study hall supervision done by teachers in the departments of German, mathematics, biology, and history is equal to, or higher than, that in English.

In column "b" is shown the fact that over 50 per cent. of these teachers are assigned duties¹ in addition to teaching and study hall supervision.

The preceding diagram, on page 75, shows the facts of Table XX in graphic form.

This diagram shows very strikingly that teachers are being assigned teaching and study hall supervision according to the maximum standard of twenty-five periods per week. There are only sixteen teachers, or 2.4 per cent. of the 671 teachers, who teach and supervise study halls less than an average of twenty periods per week. Two hundred and seventy-eight teachers, or 41.4 per cent., are doing an average of more than twenty-five periods of teaching and study hall supervision. Three hundred and seventy-seven teachers, or 56.2 per cent. of the 671, are teaching and supervising study halls from twenty to twenty-five periods per week. In marked contrast to the conclusions which might have been reached had we considered only the item of teaching, we now reach the conclusion that about 75 per cent. of 671 teachers are doing an average of twenty-five or more periods of teaching and study hall supervision, or the maximum standard of twenty-five periods of work per week. When one considers that over 50 per cent. of these teachers are also carrying other administra-

¹The discussion of the character of these duties will be found on page 80.

tive and clerical responsibilities, it becomes clear that the total work of these teachers is approximating closely to the standard of twenty-five periods per week.

Teachers of English

Thus far we have been considering the amount of teaching and study hall supervision done by 671 teachers as a group. In order to measure actual practice in the schools by the standard fixed by Associate City Superintendent Stevens, it is necessary to separate the teachers of English from the teachers of other subjects, because, as already stated, different standards are fixed for these groups.

Table XXI shows the average number of periods of teaching and study hall supervision done by teachers of English in the high schools of New York City.

TABLE XXI—226 TEACHERS OF ENGLISH—MAIN BUILDINGS AND ANNEXES

	Average Number of Periods of Teaching Plus Study Hall Supervision																											
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34								
Number of Teachers.....	0	0	0	0	0	5	2	0	23	60	76	14	32	2	5	1	0	5	0	1								

Certain facts are brought out by this table: (1) no teacher of English is carrying on an average less than twenty periods of teaching and study hall supervision; (2) only seven teachers, or 3.09 per cent. of the whole number, are carrying an average of twenty or twenty-one periods of teaching and study hall supervision; (3) 219 teachers of English, or 96.9 per cent., are carrying an average of over twenty-one periods of teaching and study hall supervision; sixty teachers of English, or 26.5 per cent., are carrying an average of more than twenty-five periods of teaching and study hall supervision.

Table XXI is the basis for the following statements: (1) that 33.6 per cent. of the teachers of English are carrying an average of twenty-five periods of teaching and study hall supervision; (2) that 26.5 per cent. are carrying twenty-four periods; (3) and that 90.7 per cent. of the teachers of English are carrying from twenty-three to twenty-seven periods of work. It now becomes clear, also, that, even though teachers of English are supposed to have fewer teaching periods than other teachers, their combined work of teaching and study hall supervision approaches very closely the maximum standard of twenty-five periods per week for all teachers.

Teachers of German, Mathematics, Biology, and History

Table XXII shows the average number of periods of teaching and of study hall supervision done by teachers of German, mathematics, biology, and history in all the high schools.

TABLE XXII—445 TEACHERS OF GERMAN, MATHEMATICS, BIOLOGY, AND HISTORY—MAIN BUILDINGS AND ANNEXES

	Average Number of Periods of Teaching Plus Study Hall Supervision															
	¹ 15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Number of Teachers..	0	2	4	8	0	0	0	15	18	46	132	131	26	45	9	5

¹ 1 teacher with 4 periods, and 1 with 7 periods.

This table brings out the following facts: (1) sixteen teachers, or 3.6 per cent. of the whole number, are carrying an average of less than twenty periods of work; (2) 218 teachers, or 48.98 per cent. of the whole number, are carrying an average of over twenty-five periods of work; (3)

211 teachers, or 47.41 per cent., are carrying, on an average, between twenty and twenty-five periods of work.

The facts of Table XXII may also be stated in the following points: (1) that 29.7 per cent. of these teachers are carrying an average of twenty-five periods; (2) that 29.4 per cent. are carrying an average of twenty-six periods; and (3) that 92.8 per cent. are doing from twenty-two to twenty-eight periods of teaching and study hall supervision. It now becomes clear, also, that nearly half of the teachers in the departments of German, mathematics, biology, and history are doing more than twenty-five periods of work in teaching and supervision of study hall. When to this amount of work we add their other assigned duties, it is again obvious that the total amount of work done by these teachers is considerably above the standard of twenty-five periods per week.

CHAPTER X

OTHER DUTIES ASSIGNED TO TEACHERS

SCOPE AND CHARACTER

IN accordance with the authority vested in the principals by the by-laws of the Board of Education, they have assigned duties other than teaching and study hall supervision to over 50 per cent. of the 671 teachers under consideration. It is impossible to state in terms of teaching periods the amount of time which these duties consume, and it is very difficult to estimate, in a definite way, the care devoted by teachers to these other assigned duties. However, they play such a large part in the administration of high schools that it is important and necessary to consider them.

The character of these duties is illustrated by the following assignments:¹ Teachers are put in charge of corridors, basements, and yards during the noon recesses, and they are placed in charge of the corridors during the passing of classes; they are assigned charge of sororities, fraternities, school publications, athletics of various kinds, arrangements for the assembly, the making of the school program, preparation of regents' credentials, supplies, books, rifle team, library, lunch room, orchestra, glee club, infirmary, and bulletin boards. They also act as coaches for the various athletic teams, as prefects of classes, and grade advisers. A careful consideration of the character of these functions shows that they are almost exclusively

¹ These items were taken from the "Program of Daily Recitation" sheets furnished the Department of Education by the principals of the high schools in February or March, 1911, and are the actual assignments made by principals to teachers during that term.

administrative, and not clerical functions. It cannot be expected, therefore, that they can be performed by the present clerks in the principals' offices; further, the very size of the list indicates that the principals cannot perform them.

Take, for example, the preparation of regents' credentials. While this work involves some clerical work, the making out of these papers requires an intimate knowledge of the course of study and the organization of the school such as the present clerks in most of the high schools do not possess. One who has charge of this work must be familiar with the changes in the time allotments of subjects in the course of study over a considerable period of years, because very frequently pupils who attended the school several years previously call for these credentials. It will be obvious, therefore, that the discharge of even this duty, which appears on the face of it to be clerical, requires knowledge which a teacher rather than a clerk can with reason be expected to possess.

CLASSIFICATION OF THESE DUTIES

A general classification of these administrative duties will show that some of them are (1) regular as to amount and distribution of time required, such as hall, basement, yard, and library duty; (2) regular as to distribution of time, but varying as to amount, such as preparation of the daily program, attention to late students, arrangements for regents' examinations, and general charge of the lunch room; (3) varying both as to amount and distribution of time, such as charge of supplies, textbooks, orchestra, fraternities, sororities, student publications, glee club, rifle team, and acting as coach for the athletic teams, work as grade adviser, or prefect of class. Although it is impossible to assign a time value to these duties, yet the responsibility borne by a teacher to whom they are assigned is, in most cases, such that the principal is bound to consider it in allotting periods of teaching to such teacher.

Most teachers in the high schools have also charge of an official class.¹ Each official class teacher, as a rule, performs the following or similar functions:²

1. Keeping a record of the attendance of pupils. This involves (a) recording and reporting attendance; (b) computing the average monthly attendance; (c) keeping a list of parents and pupils, and their addresses, and notifying parents of pupils' absences; and (d) keeping an excuse book for absences. (e) It also involves, in some schools, issuing "admits" to classes after an absence.

2. Care and distribution of text-books and supplies. Besides the general supervision of the proper use of books, this involves (a) keeping a card, or book list, of all books given out; and (b) receipting for the books when returned. Classroom work is seriously interfered with at times by pupils getting books when they enter late in the term, or by pupils who return books before leaving school.

3. Copying records. This means (a) making in duplicate (in some schools, triplicate) the promotion cards of each pupil; (b) copying program cards of each pupil; (c) copying report of each pupil for parents twice or three times each term; and (d) copying marks of each pupil on permanent record cards.

4. Having charge of discipline of pupils in the official class. In most schools the official class teacher has charge of the conduct of the pupils in the official class during the day.

5. Disseminating school notices and general information. The teacher in charge of an official class is the general administrative agency for that group of pupils. In some schools this includes supervising the progress of pupils, while, in others, grade advisers do that work.

¹ An official class is for administrative purposes. A teacher may, but usually does not, teach his or her official class.

² This statement is based upon a report made by a Committee of the Women High School Teachers' Association to the Committee on School Inquiry.

6. Looking after wardrobes and lockers; issuing keys, replacing lost keys, and canceling receipts at the close of the term, or when the pupils leave school.

7. Counseling pupils about their election of studies and progress in their work, together with other general administrative duties.

The official class seems to be a necessary part of the organization of large high schools, because it brings about harmony and unity of action. It seems to be a satisfactory method of bringing the pupils into direct contact with the administrative agencies of the school. But the danger is that these lesser, but none the less essential, duties of an official class teacher will interfere with the real work of the teacher, namely, teaching. Just so far as the time, strength, and vitality of the teacher are taken for other work, whether necessarily or otherwise, just to that extent the work of teaching must be reduced in amount, or suffer in quality. Of course, under such circumstances, the results of faulty administration are felt by the pupils.

With the marvelous growth of the high schools the amount of necessary administrative and clerical work has enormously increased. This work is naturally divided among the principal, teachers, and clerks. It is high time to take account of the amount and kind of work which each is doing, with a view to giving to each those functions for which he is paid, and for which he is supposed to be particularly qualified.

A study of the amount of time devoted to the above work in six high schools shows that, in general, teachers in charge of official classes are giving to it an average of five hours per week each term. The practical questions are these: Can this work be most effectively done by teachers? Is it interfering with the effectiveness of teaching? Could some of it be satisfactorily performed by others at a lower cost? It would appear, from the above enumeration of functions performed, that the teacher in charge of an offi-

cial class has been made increasingly responsible for clerical and administrative duties until the real function of a teacher, that of guiding and assisting individual students in their work, has been largely lost sight of. The situation suggests the need of careful analysis as a basis for action.

SHOULD THESE FUNCTIONS BE ASSIGNED TO TEACHERS OR TO
SPECIAL ADMINISTRATIVE OFFICERS?

It has been shown that there is a great deal of work in each high school, apart from teaching, which is at present assigned to teachers. It is important to consider whether this work should continue to be assigned to teachers, or whether some of it could be performed better by a special administrative officer. The principal now distributes this work to teachers, as far as possible, in accordance with their fitness to do it. It often happens, however, that there is no teacher who is particularly well qualified to perform a certain function, or, if such a teacher is found, he or she may not be available for that work at that particular time. If there were in each school one or more administrative officers, who possessed administrative and executive ability, this difficulty would be overcome.

It will be clear that some of the duties must from their nature always remain in the hands of the teaching force. For example: the general supervision of the corridors for the maintenance of order requires the attention of several teachers in different parts of the building at the same time, and it is a duty, therefore, which could not economically be assigned to persons other than teachers. On the other hand, such duties as the charge of sororities, fraternities, school publications, or athletics might all be centralized under the direction of one person.

The advantage of having teachers in charge of these administrative functions lies in the fact that the teachers are thereby gaining valuable insight into the administration of the school and increasing their teaching efficiency. Fur-

ther, some of these duties are so closely connected with the life and work of the school that a distinct loss would result if they were taken out of the hands of the teaching staff. On the other hand, the danger of assigning these duties to teachers lies in the fact that the amount of such work assigned to them may interfere seriously with their teaching. It is quite generally agreed among principals that, unless the major part of the time and thought of a teacher is given to actual instruction, the assuming of responsibility for administrative functions is likely to prevent effective teaching. For example: a teacher who teaches from six to ten periods per week (there are several such cases in the high schools of New York City), and gives the remainder of his time to administrative work, is likely to make administrative work the object of most concern, and his teaching may in consequence be seriously impaired. It would seem clear, therefore, that, if these duties are to be distributed among teachers, such a distribution should be among as many different teachers as possible, in order (1) to bring about the coöperation of each teacher in the general administration of the school, and, further, (2) to avoid the necessity of assigning to any teacher an amount of administrative work which would diminish the value of his class instruction.

The advantage of having a separate officer (assistant principal, secretary, or chief clerk) to perform these services would consist in the greater efficiency with which these functions could undoubtedly be performed by one possessing administrative and executive ability. Such an officer would always be available at once for service, and, hence, for speed and effectiveness would be superior to the teacher. For immediate results, the assistant executive officer would thus be more advantageous, but, from the larger point of view of the welfare of the school, it is better that the teachers should assume these administrative functions. Hence, we recommend that these administrative functions should continue to be assigned to teachers.

In our conferences with high school principals our attention has been repeatedly called to two facts: (1) that the clerks furnished to the principal's office are too few in number, and often incompetent; and (2) that the Department of Education refuses to recognize that there is any considerable amount of administrative and clerical work in the high schools which the principal ought to ask teachers to perform. We have been unable to examine the work of the clerks to determine its quality. From the amount of clerical work in the principal's office, and from the fact that so much work of this kind is required from teachers and first assistants, we conclude that the number of clerks is insufficient. As to the second matter, it is undoubtedly true that principals are at present forced by circumstances to assign many clerical functions to teachers and to relieve them correspondingly of teaching, even though it may be, in some cases, in direct violation of the instructions of the Department of Education.

The solution of this difficulty lies in the recognition, on the part of the Department of Education, of the fact that the administrative functions enumerated above are the only legitimate functions for teachers to perform. The principals and the Department of Education should then differentiate carefully between clerical and administrative work. After a division of the clerical and administrative functions has been made, the schools should be provided with enough competent clerical assistants to perform the clerical work. The principals would thus be left free to assign to teachers administrative duties, in accordance with the present by-laws, and to relieve such teachers from their teaching for this purpose. It is absurd to require teachers to perform clerical work which could be better done by clerks at from one third to one half the salary. It is equally absurd to expect teachers to do a full day's work in teaching and then to perform administrative functions after school hours, or as "odd jobs."



HOW MUCH TIME OF THE TEACHING STAFF SHOULD THE
PRINCIPAL HAVE AT HIS DISPOSAL FOR ADMINISTRATIVE
PURPOSES?

If principals are to assign these duties to members of the teaching staff, they ought to be at liberty to assign them to those members of the teaching staff who are best qualified to perform them, whether they be first assistants or teachers of lower rank. The principal is held responsible by the educational authorities for the administration of his school, and, consequently, ought to have authority, within reason, to employ the members of his teaching staff in the most effective manner.

The amount of administrative work which principals must delegate to members of their teaching staff varies according to the size and character of the schools. Any standard, therefore, which provides the principal with the time of his teaching staff for administrative purposes must take this fact into consideration. After a conference with the principals of the high schools on this matter, they proposed the following schedule, which we approve, and recommend for adoption.

The amount of time (in teaching periods) of the teaching staff which the principal should have at his disposal for administrative purposes in high schools of from 1,000 to 4,000 pupils is

1,000 pupils.....	15 periods
1,500 ".....	20 "
2,000 ".....	30 "
2,500 ".....	35 "
3,000 ".....	40 "
3,500 ".....	45 "
4,000 ".....	50 "

The apparent fear, on the part of some, that positions of teachers to whom these duties are assigned, and whose teaching periods are correspondingly reduced, will develop into sinecures does not seem to us to be well founded, inasmuch as the principals of the high schools can be held as strictly to account for the use they make of this time as

they can for the amount of teaching which each teacher now does under their direction.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

We may summarize the foregoing discussion as follows:

1. Of the 671 teachers under consideration, 15.50 per cent. are teaching less than twenty periods; 82.11 per cent. are teaching from twenty to twenty-five periods; and 2.39 per cent. are teaching more than twenty-five periods.

2. Of the 226 teachers of English, 25.66 per cent. are teaching less than twenty periods per week; 32.3 per cent. are teaching more than twenty-one periods; and only 42 per cent. are teaching twenty or twenty-one periods—the standard fixed by the Department of Education.

3. Of the teachers of German, mathematics, biology, and history, 10.3 per cent. are teaching less than twenty periods; 2.7 per cent. are teaching more than twenty-five periods; and 86.96 per cent. are teaching from twenty to twenty-five periods—the standard fixed by the Department of Education.

If study hall supervision is added to teaching, the following results are obtained:

1. Of the 671 teachers, 2.4 per cent. are doing less than twenty periods of work; 41.4 per cent. are doing more than twenty-five periods of work; and 56.2 per cent. are doing from twenty to twenty-five periods of work.

2. Over 50 per cent. of all the teachers have administrative duties to perform in addition to teaching and study hall supervision.

3. Of the teachers of English, none are doing less than twenty periods of teaching and study hall supervision; 3.09 per cent. are doing twenty or twenty-one periods of work; 96.90 per cent. are doing over twenty-one periods of work;

26.5 per cent. are doing over twenty-five periods; and 33.6 per cent. are doing twenty-five periods.

4. Of the teachers in other departments under consideration, 3.6 per cent. are doing less than twenty periods of work; 48.98 per cent. are doing more than twenty-five periods of work; and 47.41 per cent. are doing from twenty to twenty-five periods.

Our analysis of the work done by teachers has led us to the following conclusions and recommendations:

1. Over 15 per cent. of the teachers under consideration are teaching less than the minimum standard—twenty periods—because they are doing work other than teaching. Are not some of these teachers doing too little teaching? We recommend that the Committee on High Schools of the Board of Superintendents¹ investigate the question and report to the Board of Superintendents.

2. If to teaching we add study hall supervision, we find that only a trifle over 2 per cent. of the teachers are doing less than twenty periods; and that over 41 per cent. are doing more than twenty-five periods of work (i. e., they do not have a free period each day). Are not some of these teachers doing too much work? We recommend, as before, that the Committee on High Schools of the Board of Superintendents investigate the question and report to the Board of Superintendents.

3. In addition to teaching and study hall supervision, over 50 per cent. of the teachers have other assigned duties.

4. We find, on examination, that some of these other assigned duties are purely clerical, and that a large part of them are administrative.

¹ In view of the fact that Professor Elliott recommends that the Board of Superintendents be abolished, and that a Bureau of Investigation and Appraisal be constituted in its stead, the matters in this report referred to the former Board would naturally be taken up by the latter.

5. We recommend that the principals and the Board of Superintendents differentiate very definitely between what is clerical and what is administrative work.

6. We recommend (a) that the principal of each high school be furnished a sufficient number of competent clerks to perform the clerical work, and (b) also, that the principal of each high school be definitely allowed a certain portion of the time of his teaching staff for the discharge of such administrative functions as he finds it necessary to assign to them.

**Administrative Control of the High Schools, as It
Affects Internal Organization**

CHAPTER XI

WHO IS RESPONSIBLE FOR THE INTERNAL ORGANIZATION OF THE HIGH SCHOOLS?

OUR studies of the size of sections, the work of teachers, and the courses of study have brought into prominence certain questions of administration which affect directly the internal organization of the high school. For example, in our study of the size of sections, we have found that there were small sections which could apparently have been avoided by a better distribution of pupils; and there were large sections which could apparently have been reduced by the employment of additional teachers. Are the principals, in the preparation of their daily programs, making the most effective distribution of pupils in sections, both from an economic and an educational point of view? Why are not more teachers employed to reduce over-size sections, or, at least, to make it possible for the principal to maintain approximately the established standard size of sections? Again, in our study of the work of teachers, we found that the first assistants are assigned so much teaching and administrative work that they have little time for their work as chairmen of departments. Why are not more teachers provided so that first assistants may have the time needed for their work as chairmen of departments?

Certain administrative questions grow out of Professor Davis' study of the courses of study in the high schools: What is the plan of the Board of Superintendents (1) in

determining the program of studies¹ for a given high school; (2) in fixing the prescribed work and the elective work in a curriculum; (3) and in fixing the time allotments? (4) What is the most effective method of preparing courses of study? (5) What is the best type of high school for New York City?

Lastly, there are at least two important general questions of high school administration which must be considered, namely: (1) the proper size of high schools for New York City; (2) the effect of the size and number of classrooms on the organization of the high school.

Satisfactory answers to all the foregoing questions underlie effective high school organization and administration. It will be observed that the principal of the school is responsible for conditions suggested in some of the questions, and the Department of Education² for the others. These questions will be considered from the standpoint of the agencies which control effective high school organization, dividing that general topic into two parts: (1) the principal in his responsibility for making the daily program; and (2) the Department of Education in its responsibility for (a) the program of studies; (b) the size of the school; (c) the size and number of classrooms; and (d) the number of teachers employed.

¹ We are using the terminology adopted by the Committee on College Entrance Requirements: "Three distinct terms seem to be needed: (1) *Program of studies*, which includes all of the studies offered in a given school; (2) *curriculum*, which means the group of studies schematically arranged for any pupil or set of pupils; (3) *course of study*, which means the quantity, quality, and method of the work in any given subject of instruction." Report, p. 42.

² I. e., The Board of Superintendents and the Board of Education.

CHAPTER XII

THE PRINCIPAL AND THE DAILY PROGRAM ¹

IT would at first appear that the principal is the most important agency in determining the size of recitation sections in his school, since it is he who determines into how many sections the pupils taking a given term's work shall be divided. Indeed, our study of the size of sections ² in certain selected schools has shown that some principals, in making their daily programs, have been responsible for organizing both large and small sections in the same term's work, each of which could have been avoided by a different distribution of pupils. This raises the question of making the daily program by the principal.³ The making of the daily programs in the various high schools has not been the subject of a special study for two reasons: (1) the lack of time after the need of such a study was revealed, and (2) the fact that the general administrative control is in many cases such as to limit the possibility of the principal's making an effective daily program.

(1) Our study of the size of section, of the work of teachers, and of the general administration of the high school system brought to light the need of a special study of the daily programs. After these studies had been completed the time at our disposal did not permit a study of how to make a daily program.

¹The daily program is the schedule of class recitations, room assignments of classes, and teaching assignments, followed each day for one term in a given school.

²As shown on pp. 16, 21 and 25.

³Or by the person or persons to whom he delegates that function.

(2) The principal, however, does not control all the factors which affect the organization of his school. He is subject to the regulations as to the standard size of section and the standard amount of work for teachers fixed by the Board of Superintendents. The organization of his school also depends on the program of studies, the size of the school, the size and number of classrooms, and the number of teachers employed. The Department of Education, the Board of Superintendents, or the Board of Education, separately, is charged in the by-laws¹ with the responsibility for each of these factors. How, then, we may ask, has the Department of Education discharged its responsibility in these respects?

It may be here stated that there is not a high school in New York City which is satisfactory, or which approximates in any degree to a satisfactory condition, with respect to the program of studies and the conditions under which it is made. The time allotments for studies in every course of study in the high schools are haphazard, and show no well-conceived plan to make possible an effective daily program for a school. While the size of most school buildings is already very large, an attempt is being made in every one of them to care for many more students than the building was designed for. As a result, there is a dearth of satisfactory classrooms; pupils are being accommodated in unsatisfactory rooms in main buildings or in annexes. The size of sections ranges very small and very large as a direct result. The method of increasing or decreasing the number of teachers in a department of study by creating new teaching positions, or by declaring "teachers in excess," does not provide teachers where they are needed, and leaves teachers in schools where their services are not needed. This unfortunate condition arises from the fact that the data on which such reorganizations are based are inadequate.

¹ By-laws, Board of Education, 1909: Section 40, paragraphs 7, 8, 9; section 21, paragraph 7; section 16, paragraph 1.

In view of these conditions it is impossible to credit the effectiveness or ineffectiveness of the organization of any high school to the principal. The factors affecting that organization do not lie so much within the province of the principals as in the authority above them, viz., the Department of Education. Improvements in high school organization and administration must be made, in a large part, by the authority in general control of the high school system.¹

The effective internal organization and general administration of the high schools in a school system depends upon several agencies. As has been stated, it depends not only on the principal, but also on all the administrative authorities who exercise control over high schools. This joint responsibility of the principal and the administrative authorities requires that the principals and the Department of Education should work together for the solution of problems common to both, and in attempting to bring about satisfactory conditions throughout the high school system.

General administrative control of the high schools is effective when it renders satisfactory the conditions affecting the work of teachers and pupils. For instance, effective administration would provide a sufficient number of high schools of satisfactory size to meet the needs of the community which the school system is to serve; it would provide the different kinds of education needed by the different types of pupils; and it would provide a sufficient number of teachers so that (1) no teachers would be required to do an unreasonable amount of work, and (2) a reasonable size of sections could be maintained.

General administrative control is successful when it promotes effective internal organization of the high schools, and thus provides the education which each pupil needs;

¹ See Professor Moore's book, *How New York City Administers Its Schools*, and Professor Elliott's book on *City School Supervision: A Constructive Study Applied to New York City*, both in the School Efficiency Series.

it is unsuccessful when, through neglect or unwise action, it prevents or hinders effective internal organization. Ineffectiveness in organization, or in administration, no matter what the cause, must inevitably result in injury to the pupils.

In order that the general administrative direction or control of the high schools may be most effective, there must be well-conceived plans, methods, and purposes, worked out on the basis of the educational needs of the community to be served. For example, the administrative agency which prepares the courses of study for the high schools must do so on the basis of the knowledge which comes from having seen specific needs. A course of study must be not merely a logical, well-organized body of facts; it must also be selected and organized to serve a well-defined purpose.

Again, the amount of teaching, or other work, which teachers should do each week should be fixed after the administrative agency has seen specifically what teachers are doing, how effective their work is, and whether it is legitimate work for teachers to perform. On the basis of this knowledge, the amount of work teachers may reasonably be expected to do can be wisely fixed.

Thus every act of the controlling administrative agency should be based on knowledge which comes from direct contact with the schools, principals, teachers, and pupils. The agency which determines the size of recitation sections, the size of classrooms, the proper size of high school for New York City, the best type of high school for New York City, and the location of high schools, must be in sufficient contact with the schools to see what the pupils need.

The high school principals should play a prominent part, not only in the internal organization of their respective schools, but also in the general administration of the high school system, since they are nearer to the actual problems of education than either the Board of Superintendents or the Board of Education. The knowledge which the prin-

cipals and teachers possess should be regularly utilized in all general administrative matters affecting the internal organization of the high schools. Improvement in the organization and administration of high schools must come through an organization in which principals and teachers shall not only be permitted, but required, to contribute the results of their experience and knowledge to the solution of high school problems.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following is a summary of our findings and recommendations on the principal's responsibility for the daily program. We find:

1. That the principals are responsible for the organization of recitation sections in their respective schools.
2. That some of the principals have organized large and small sections in the same term of work, each of which could have been avoided by a different distribution of pupils.
3. That the effective organization of the schools, as to number and size of sections, by the principals is directly affected by factors controlled by the Department of Education.
4. That these factors are the program ("course") of studies, the size of school, the size and number of classrooms, and the number of teachers employed.

We recommend:

That a thoroughgoing investigation be undertaken of program-making by the principals. This investigation should be made by a committee of high school principals and a committee of the Board of Superintendents working together.

CHAPTER XIII

THE DEPARTMENT OF EDUCATION¹ AND THE PROGRAM OF STUDIES²

IT has been found that the number of pupils in sections in upper terms, even in the largest high schools, is inevitably small as compared with those in the first terms, and this, too, in schools with one curriculum. If there are two or three differentiated curricula, obviously the divisions of pupils must be more numerous, and the number of pupils following each curriculum must be correspondingly reduced. As the number of pupils following a curriculum is reduced, it is obvious that the possibility and probability of small sections in upper terms of work are increased. If this be so, then the sections in the high school with only one curriculum for a given number of pupils can be more effectively organized than in the school with two or more curricula.

Has the Board of Superintendents considered the extent to which the larger number of curricula ("general," "commercial," "manual training," ".") in a school increases the number of small sections, and, hence, increases the amount of teaching to be done to care for a given number of pupils?

¹ The Department of Education—i. e., the Board of Superintendents and the Board of Education. The Board of Superintendents is discussed by Professor E. C. Elliott in his volume, *City School Supervision*, in the School Efficiency Series, and the Board of Education by Professor Moore in *How New York City Administers Its Schools*, in the School Efficiency Series; hence, the discussion here will have to do only with high school administration, as it affects the internal organization of the high school.

² The programs of study in the various high schools are the subject

Again, it is obvious that the greater the number of subjects open to election by pupils in a given term of work, the more numerous will be the divisions of pupils, and, hence, the greater the probability of an increase in the number of small sections in the upper terms. Small sections increase the per capita cost of instruction. And yet this more expensive instruction may produce commensurate educational returns because better adapted to the needs of pupils.

Has the Board of Superintendents considered to what extent, if any, the number of electives in a curriculum increases the cost of instruction, and whether the increased cost, if any, produces commensurate educational returns?

Still further, a heterogeneous time allotment,¹ such as is found in New York City high school curricula, in which subjects are offered, some one period, some two periods, some three periods, and so on up to six periods, or, in the case of manual training, eight periods, per week, creates a situation in which it is extremely difficult to make a satisfactory daily program for a school. The daily program is to the school what the time table is to the railroad. All factors which affect the daily program bear a direct relation to the effectiveness of the instruction, and to the economic organization of the school.

Has the Board of Superintendents followed any well-conceived plan in determining the time allotments for high school subjects? Has it considered the daily program of the school in determining time allotments?

of the volume by Professor C. O. Davis on *High School Courses of Study* in the School Efficiency Series; hence, only certain questions of administration will here be raised concerning the curricula of the various schools.

¹ See Professor Davis' volume in the School Efficiency Series.

The lack of any evidence in the printed documents of the Board of Superintendents, together with the state of affairs which we find in the schools, leads us to answer these questions dogmatically in the negative.

In connection with our discussion of the program of studies, it is pertinent at this point to make certain recommendations concerning a method of preparing courses of study, and the best type of high school for New York City.

RECOMMENDATIONS

1. On preparing courses of study. The courses of study should be subjected to continual¹ revision and modification by committees of high school principals and teachers, and a corresponding committee of the Board of Superintendents, working together. Those best qualified to judge the administrative effectiveness of the courses of study are the principals, together with those to whom they delegate the task of program-making. Those best qualified to judge the educational effectiveness of the courses of study are those who teach them and those who directly supervise that teaching. With the high educational and professional standards for appointment to the New York City high schools, the teachers are well qualified and competent, both in training and in experience, to take a prominent part in such work. There is every reason, therefore, for including the principals and teachers in the committees which have under consideration the revision of the courses of study, because each can contribute essential points of view which can be obtained by the Department of Education in no other way. By such a method of revision, the principals' knowledge of administrative difficulties and the prac-

¹Of course, this does not mean that a course of study shall be changed at any time, and by any self-constituted critic. Such a revision would certainly result in demoralization. It does mean that a course of study should be at all times the subject of careful, sympathetic criticism by all those who have anything to do with organizing or administering it, and that it should be changed gradually.

tical experience of the teachers would be brought to bear upon the choice of subject matter, the purpose, and the feasibility of the courses of study. The above recommendation contemplates more than the inviting of individual teachers in the various high schools to assist the Board of Superintendents in the occasional revision of courses of study. It contemplates the establishment of regular channels of communication between organizations of principals and teachers through which the workers in the schools may always find an approach to the central educational authorities. And, on the other hand, it contemplates that such communications shall receive attention, and form the basis for coöperative consideration. Only by some such method of utilizing the experience of principals and teachers can the system of high schools profit by its mistakes and its successes in making courses of study.

2. On the best type of high school for New York City. Should it be the cosmopolitan high school, offering several different curricula, or should it be a specialized high school, devoting itself to one line of work for a particular group of pupils, or should the high school system contain both types? To put the matter more specifically, should the typical high school of New York City be Bryant, in which there are a "general course," a "manual training course," and a "commercial course," or should the typical school be a specialized high school, examples of which are Boys' High School, Brooklyn (largely college preparatory), Stuyvesant High School, Manhattan (technical and scientific), and the High School of Commerce, Manhattan? The answer to this question involves not only the effective internal organization of the school, but it also involves the whole policy of the Board of Superintendents and the Board of Education, concerning the size, number, and character of the high schools of the city. If the high school buildings hereafter constructed are built as large as the present high school buildings, it is obvious that fewer such schools will be built than if they were built half the present size. The

number of high schools which are scattered throughout the city determines the proximity of pupils to high schools. As the number of schools increases, high schools are inevitably brought nearer to the school population to be served. The matter of the size and number of high schools is well stated by Superintendent Maxwell:¹

"It is beyond question that a large number of small or moderate-sized high schools, situated so as easily to accommodate populous neighborhoods, will attract a larger number of high school students and will, other things being equal, give a better education (that word being used in its widest sense) than a small number of very large high schools, widely separated and accommodating an equal number of students."

The chief disadvantage of the specialized high school is that it may require pupils to travel long distances. The means of travel and the areas of congested population in New York City tend to minimize, if not to overcome, this disadvantage. In some sections of the city, as in the present case of Far Rockaway or Staten Island, it may always continue to be advantageous to provide only one high school to serve a community. But, in general, all things considered, the specialized type of high schools seems to us best.

We favor the specialized type of high school with a single curriculum for New York City for the following reasons: (1) it can be more effective educationally because (a) its whole activity is concentrated on a single purpose, and (b) all of the work can be made to conform to the specific purpose of the school in a way that it could not if the school undertook to serve more than one purpose; (2) the specialized type of school can be more effectively organized and, hence, more economically administered, because (a) all pupils in a given school will be pursuing more

¹From Eleventh Annual Report of the City Superintendent of Schools, of the City of New York, for year ending July 31, 1909, pages 111 and 112.

nearly the same line of work, and (b) the classes will not be so nearly depleted in the upper terms as they now are in various schools having more than one curriculum.¹

3. On the questions raised. We recommend that each one of the questions raised above (pp. 100-1) be the subject of thoroughgoing study by the Board of Superintendents and the Board of Education to the end that the future policy of the Department of Education may be based upon adequate data.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following is a condensed summary of our findings and recommendations on the Department of Education's responsibility for the program of studies. We raise these questions:

1. Has the Board of Superintendents considered the extent to which the larger number of curricula ("general," "commercial," "manual training," ". . . .") in a school increases the number of small sections, and, hence, increases the amount of teaching to be done to care for a given number of pupils?
2. Has the Board of Superintendents considered to what extent, if any, the number of electives in a curriculum

¹ It appears from press reports of educational meetings in New York City that this paragraph has been misinterpreted. At least some school people seem to have taken the paragraph to mean that we recommended the specialized high school as the best type for New York City. A careful reading of our recommendations will show that this is not so. In the above paragraph we merely expressed our educational opinion. At present there is no fact-basis for deciding the important educational question of the relative efficiency of the specialized and the so-called cosmopolitan high school. What we did recommend was that the educational authorities of New York City make a comparative study of the relative economic and educational efficiency of the different types of high school now existing in New York City and such new ones as may be established with a view to settling this important question—at least for New York City. The question cannot be settled by theoretical arguments followed by a formal vote of "yeas" and "nays."

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increases the cost of instruction, and whether the increased cost, if any, produces commensurate educational returns?

3. Has the Board of Superintendents followed any well-conceived plan in determining the time allotments for high school subjects? Has it considered the daily program of the school in determining time allotments?

We recommend:

1. That each question raised above be the subject of an investigation by the Board of Superintendents in order to determine:
 - a. Whether, educationally and economically, there should be a single curriculum or several curricula in one high school.
 - b. Whether the number of electives increases the cost of instruction and, if so, whether the educational results are commensurate with the increased cost.
 - c. A plan for assigning time allotments to subjects which shall take into consideration not only the educational value of each subject, but also whether it admits of making a satisfactory daily program.
2. That the courses of study and curricula be subjected to continual but gradual revision and modification by committees of high school principals and teachers, and corresponding committees of the Board of Superintendents working together.

CHAPTER XIV

THE DEPARTMENT OF EDUCATION AND THE SIZE OF HIGH SCHOOLS

THE effectiveness of the organization of a high school depends also upon the size of the school. A standard size of section cannot be as closely approximated in a high school with 500 pupils as it can be in a high school with 1,500. There will be relatively fewer students in each term of work in every subject in the smaller school.¹ The problem in the small school is to get enough pupils to make sections of reasonable size; the problem in the large school (and this is largely the problem in New York City) is to keep the sections small enough for effective work.

Has the Department of Education considered the effectiveness of instruction in, and administration of, the larger high schools, as compared with the smaller schools, in order to determine upon a future policy?

The size of the high schools in New York City will be discussed as follows: (1) What is the proper size of a high school in New York City? (2) What is the present size of high schools in New York City? (3) Our recommendations.

¹To illustrate: a group of fifty pupils in a given term's work would not be unusual, but these pupils should always be divided into relatively small sections for instruction. The number of such sections in the smaller high school will inevitably be relatively large. In the large high school there will be several sections of pupils in nearly every department of study, and the size of section, therefore, is more largely within the control of the principal, and a given standard can be more nearly maintained.

WHAT IS THE PROPER SIZE?

A high school ought not to be so large as to prevent a principal from being really the executive and supervising head of his school.

The by-laws make the principal responsible for the administration of his school; the amount of his responsibility depends largely upon the size of his school. Obviously, he should not be charged with more responsibility than he can effectively carry. As an executive, he has three principal relationships to maintain—(1) to pupils, (2) to parents, and (3) to teachers.

1. A high school ought not to be so large as to make it impossible for the principal to keep in close touch with the work of individual pupils, either personally or through a single intermediary. The school should not be so large as to prevent the principal from giving advice and counsel regarding the school's relation to the present and future purposes of the pupils. The principal ought to become personally acquainted with most, if not all, of the pupils who remain in the school for some time, for the pupils' sake and for his own. For pupils to come in contact with the principal's personality ought to be valuable to them. The successful administration of the school by the principal depends upon his intimate knowledge of, and detailed insight into, the work of the pupils. There is no substitute for it; in no other way can he make his school serve the pupils, except by his knowledge of their needs, and his adaptation of the work of the school to those needs.

2. The school ought not to be so large as to prevent the principal from conferring with every parent who seeks his counsel. The office of the principal is really a trusteeship created for certain educational purposes; the principal ought not to be prevented from performing his functions—one of which is to serve parents—by being overloaded with other duties, or with too many executive and adminis-

trative functions. In other words, counseling with parents is one of his functions, and the school ought not to be so large as to increase the amount of that work to such an extent as to make it disproportionate to his other responsibilities.

3. The school ought not to be so large as to prevent the principal from supervising carefully the work of each teacher, for the improvement of the teachers and in order that he may unify the work of the school. Further, if, as in New York City, the principal is required to rate or grade the work of each teacher each term, he must have time to do it. He cannot do this effectively if the number of teachers is too large.

A high school ought not to be so large that its size interferes with its effective administration.

The inevitable administrative difficulties, due to large numbers of pupils and teachers, are increased in a large school out of proportion to the number of pupils and teachers. The commotion in the halls caused by the passing of classes, and the crowding in cloak rooms, lunch rooms, and locker rooms, increase problems of order and discipline in geometrical progression rather than in direct proportion to the number of students.

A high school ought not to be so large as to prevent the assembly of all pupils at one time in the auditorium for general school purposes.

The assembly is one of the means through which the principal may impress his personality and his ideals upon the student body. It also affords a valuable opportunity for creating school spirit, and for inculcating important moral lessons. For all these things the assembly of the students at one time is desirable and essential. In like

manner, the school should not be so large that adequate gymnasium and lunch room facilities cannot be effectively provided.

WHAT IS THE PRESENT SIZE OF HIGH SCHOOLS IN NEW YORK CITY?

Statistics of Size

Table XXIII shows the high schools in New York City, the number of teachers,¹ the number of pupils² in the main

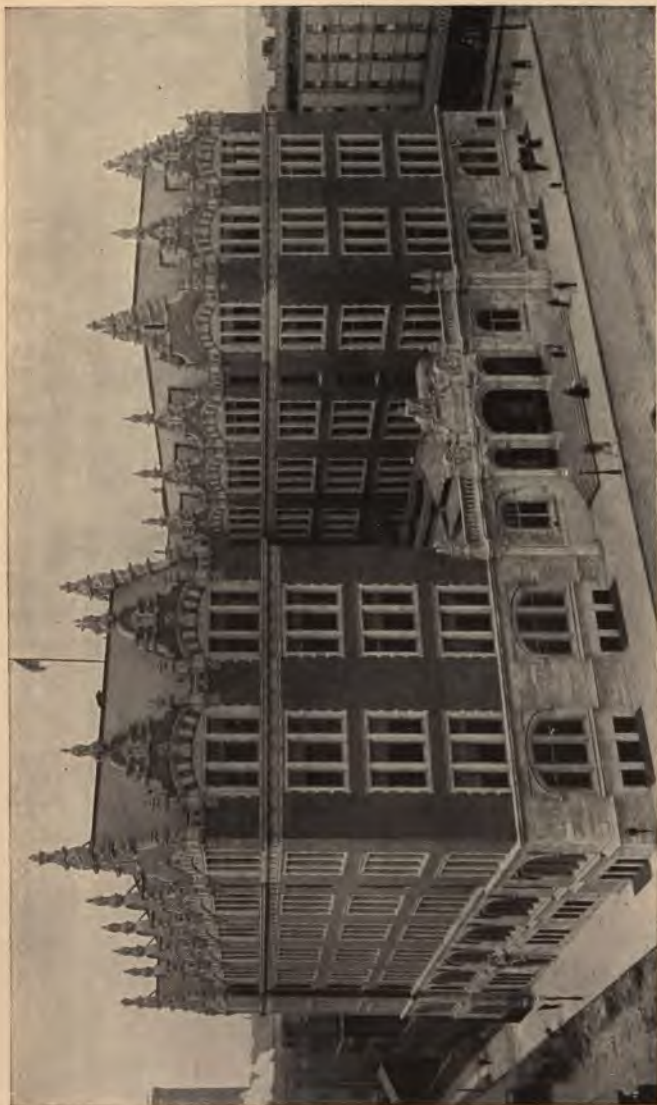
TABLE XXIII

High Schools	No. of Teachers	No. of Pupils in Main Buildings	No. of Pupils in Annexes	Totals
DeWitt Clinton.....	95	3,169	.....	3,169
H. S. of Commerce.....	61	2,096	.....	2,096
Stuyvesant.....	83	2,082	.....	2,082
Wadleigh.....	107	2,371	447	2,818
Washington Irving.....	133	762	3,137	3,899
Morris.....	113	2,586	751	3,337
Girls'.....	112	1,828	886	2,714
Boys'.....	69	1,072	706	1,778
Erasmus Hall.....	120	2,653	624	3,277
Manual Training.....	123	2,307	706	3,013
Commercial.....	92	2,012	368	2,380
Eastern District.....	87	2,011	640	2,651
Bushwick.....	26	442	732	1,174
Bryant.....	39	962	.....	962
Newtown.....	27	807	.....	807
Flushing.....	27	517	.....	517
Far Rockaway.....	12	239	.....	239
Jamaica.....	36	871	.....	871
Richmond Hill.....	32	727	.....	727
Curtis.....	35	825	53	878
	1,429	30,339	9,050	39,389

buildings and in the annexes, together with the total number of pupils in each school.

¹ Number of teachers June 30, 1911.

² Number of pupils on register October 31, 1911.



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DEWITT CLINTON HIGH SCHOOL, MANHATTAN.

One of the largest high schools in the city of New York. Number of teachers (June, 1911), 95. Number of pupils on register, 3,169.

It will be observed that the number of pupils ranges from 239 in Far Rockaway High School to 3,169 in DeWitt Clinton High School. The largest high school in the city is Washington Irving, containing 3,899 pupils, but this school is located in six different buildings. Can the principal of one of these large schools be the executive head of his school? Can he discharge his obligations to pupils, to parents, and to teachers?

Discussion of Size

Can the Principal Discharge His Responsibility to Pupils? In each of twelve out of the twenty high schools there are more than 1,500 pupils; in each of eleven, more than 2,000; in each of eight, more than 2,500; and in each of five, more than 3,000 pupils. It is perfectly obvious that the principal cannot give individual attention to 2,000 or 3,000 pupils; that, for example, he cannot know how pupils are getting on in their work, or how well the course is adapted to their needs.

The writer called one morning at the office of the principal of a school of over 3,000 pupils, when the principal was going over the mid-term report cards before sending them to parents. The mere mechanical labor of handling these hundreds of cards takes days of the principal's time, and he certainly cannot examine them carefully enough to gain an idea of the work of an individual pupil, or to obtain information concerning the work of the 100 or more teachers in his school. And yet, as an executive and administrator, he is held responsible for the work of his pupils and his teachers.

Can the Principal Discharge His Responsibility to the Parents? Discussion of this matter with principals has confirmed our opinion that principals are unable to confer with all parents who desire to see them, or with parents whom the principals may themselves desire to see. In a well-organized school, working under favorable conditions,

a considerable number of parents will wish to confer with the principal. In large schools principals are at present often compelled to adopt some plan of referring parents to the various teachers. And yet these conferences with parents should be a vital part of the principal's work as an executive.

Can the Principal Discharge His Responsibility to the Teachers? In the larger schools, the number of teachers ranges from about sixty to one hundred and thirty-three. Among the functions of the principal, that of observing the work of the teachers in order to grade them and assist them in improving their work must receive only its proportionate time. Hence, the principal has very little time for constructive supervision. Suppose there are 120 teachers in a high school and the principal visits each one twice each term, spending a whole period each time.¹ On the basis of six periods per day and five days per week, the principal can make thirty visits each week. If the principal visited every period per day, it would take him eight weeks to complete this visiting alone. If he visited half the time each day, he would spend sixteen weeks, or nearly all the available time in a term. Again, where the school is divided among six different buildings, as is Washington Irving, or between the main buildings and annexes, as are eleven schools, the amount of time consumed in visiting teachers would be increased accordingly. The lack of careful supervision has resulted, and must continue to result, in a feeling on the part of some teachers that the principal's grading is not fair. Many teachers do not think that the principal spends enough time with them to justify his judgment concerning their work. Furthermore, when the principal lacks the time to do the work well, he is likely to err on the side of generosity, and grade teachers higher than he should. The importance of grading teachers has been

¹We have elsewhere defended the two propositions, first, that one visit is an insufficient basis for giving a grade, and, second, that the supervisor should spend a whole period in the room. See p. 61.

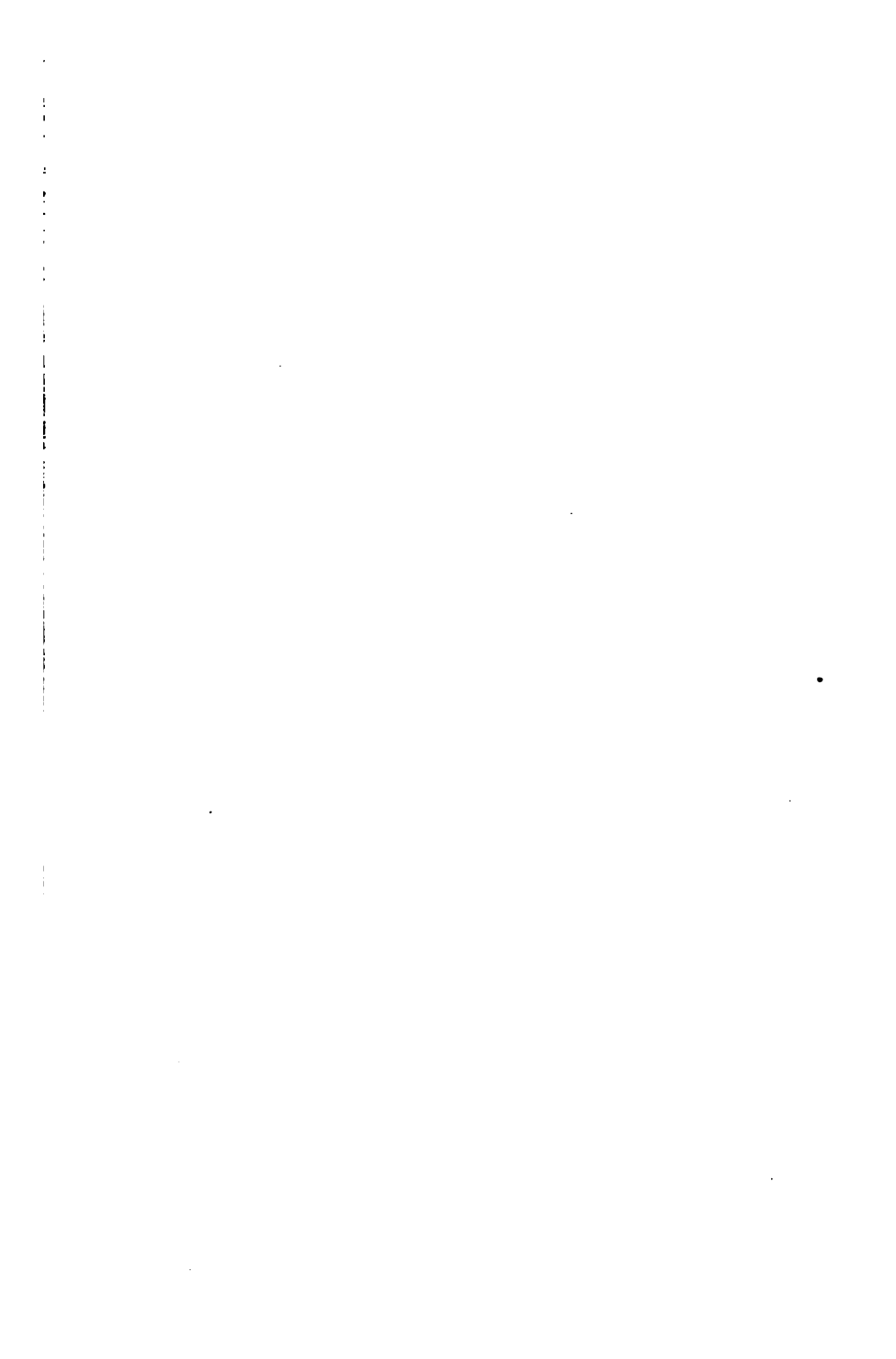


face p. 112

AUDITORIUM OF THE WASHINGTON IRVING HIGH SCHOOL.

1. From the balcony; 2. from the stage.

The largest school in the city of New York. Number of teachers (June, 1911), 133. Number of pupils on register, 3,899.



recently augmented by the "Equal Pay" law, which provides that the teacher's increase in salary, beyond the ninth and twelfth years, is contingent upon that teacher being declared "fit and meritorious," or of "superior merit." The grades which principals have given teachers in the past have played a prominent part in the determination of this "declaration" by the Board of Examiners. Where such great educational and financial responsibility rests on the principal, he should have time for discharging that responsibility.

Does the Size of the School Interfere With Its Administration? It is the general opinion of the principals and teachers in these large high schools that, as administrative units, they are too large. This opinion we share.

Can All Pupils Be Assembled At One Time? There are only three high schools in the city which afford accommodations for assembling all the pupils at one time. The usual plan is to divide the pupils by classes, and hold assembly on different days for different groups of pupils, repeating the program for each group.

High School "Annexes"

The size of the high schools has developed the "annexes"—parts of the school in separate buildings.

Importance of Considering the Annexes. The following facts suggest the importance of considering these annexes in detail:

1. There are twenty high schools and twenty-one annexes, or an average of more than one annex for each high school in New York City.
2. There are in all 39,389 pupils in the high schools and annexes. Of this number, 9,050 are in the annexes. That is, 22.98 per cent. of all high school pupils in New York City are in annexes.

3. There are 27,919 pupils in the eleven schools which have annexes, of whom 9,050 are in the annexes. That is, 32.41 per cent. of the pupils in high schools with annexes are in the annexes.

Definition, Location, and Equipment. A high school annex in New York City means a separately organized body of pupils and teachers in a building separate from the main school. Nevertheless, for all general purposes, these pupils and teachers are considered an integral part of the main school. The annex is under the immediate direction of a "teacher-in-charge," who is usually of the rank of first assistant. Such a "teacher-in-charge" receives \$500 additional salary, provided there are twelve or more classes in the annex.

The location of an annex is determined largely by the school population to be served. An annex must be located, however, in an elementary school building, where rooms can be made available for its use. In most cases the annex does not crowd the work in the elementary school. But there are exceptions; e. g., the annexes of the Morris High School, in the Bronx, are crowded into elementary school buildings which are badly needed for elementary school classes.

The general equipment of the building in which the annex is located is, of course, the equipment of the elementary school. In many cases, only the first two or three terms of work are offered in the annex, although, in some cases, as many as three years of work are offered. In any case, biology must be taught, and, in the cases of some annexes, manual training and commercial work are offered. In general, the apparatus for science work, manual training, or technical work in the annex is inferior to the apparatus in the main building.

Organization. The organization of the annexes will be considered from the standpoint of (1) personnel of the teachers in the annexes; (2) changes among teachers; (3)

the amount of work done by teachers; (4) the size of sections in the annexes; and (5) changes among pupils.

1. The personnel of the teachers. Different plans are followed by different principals in assigning teachers to the annexes. Some principals assign a teacher for a year only, rotating teachers from year to year through the annex back to the main building. Other principals assign teachers to teach in an annex who live in that vicinity and prefer to teach there. It is the prevailing opinion among teachers, however, that the less competent teachers are assigned to the annexes, and are kept there as long as possible.

2. Changes among teachers. Wherever the plan exists of rotating teachers through the annex and back to the main building there is an entire change of teachers in the annex each year. This must, of course, be detrimental to pupils who remain in the annex for a longer period than one year. If, on the contrary, less efficient teachers are assigned to work in the annexes, the teaching must be inferior to that in the main building. Even though these less efficient teachers would be in the main building if there were no annexes, their relative number in the annex is larger than among the teachers in the main building. In other words, a pupil comes under the instruction of a larger number of less effective teachers in the annexes than he would if all pupils and teachers were in the main building.

3. The amount of work done by teachers. The teachers in the annexes have more periods of teaching and study hall supervision than teachers in the main buildings.

Table XXIV (see page 116) shows the relative amount of teaching and study hall supervision done by teachers in the departments of English, German, mathematics, biology, and history, in the main buildings and in the annexes in the high schools of New York City.

The line drawn through the table horizontally, passing through the most frequent average number of periods of teaching and study hall supervision in the case of the main

TABLE XXIV—NUMBER OF TEACHERS

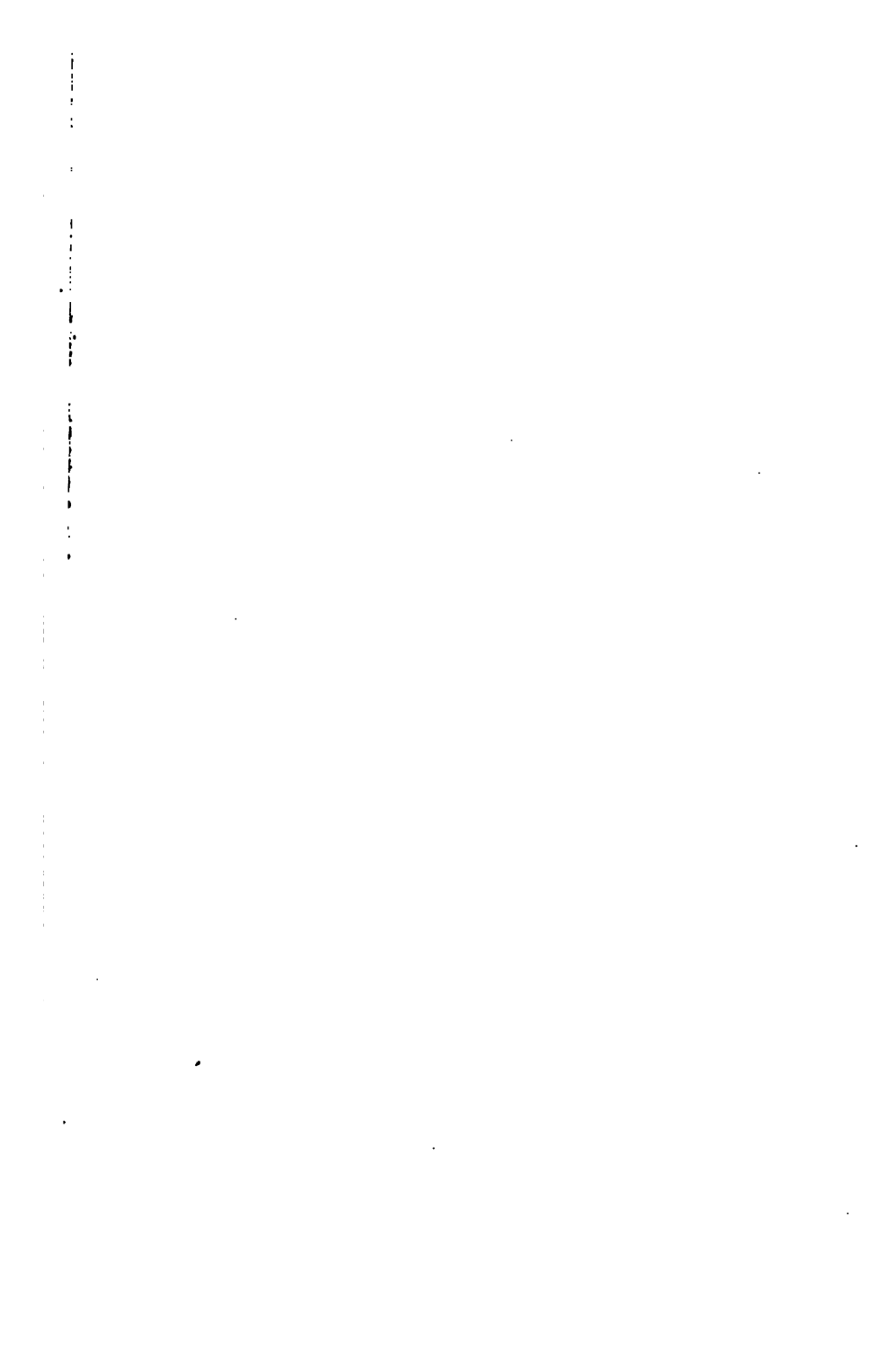
	Main Buildings					Annexes			
	English	German	Mathematics ¹	Biology ²	History ³	English	German	Mathematics	Biology ⁴
	a	b	a	b	a	a	b	a	b
	a	b	a	b	a	a	b	a	b
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* = No data

*¹ = 1 additional teacher with 4 periods.*² = 1 additional teacher with 7 periods*³ = 1 additional teacher with 34 periods.*⁴ = No history in annexes.

For an explanation of the method of preparing Table XXIV, see the footnote at the bottom of p. 47.

SIZE OF SECTION	53	54	55	56	57	58	59	60	61	62	63	64	65
No. of Sections													
Main Buildings	2	1	2	1									1
Annexes	1	1						1					
Totals	3	2	2	1				1					1



buildings and the annexes, shows that the teachers in the annexes are doing the larger amount of this work.

If the facts in Table XXIV be tabulated in a different form, this conclusion is reinforced. The following is a comparison of the average number of periods of work most frequently done by teachers in the main building and annexes, arranged by subjects:

	In Main Buildings	In Annexes
In English.....	24.0	27.0
In German.....	25.5	27.0
In mathematics.....	25.5	27.5
In biology.....	25.5	25.0
In history.....	24.5	Not offered

In every case, except biology, the amount of work carried by teachers is larger in the annex than in the main building. It should be further pointed out that 65.47 per cent. of the teachers in the annexes are carrying more than twenty-five periods of work per week. In addition to teaching and study hall supervision, a large majority of teachers also have, like the teachers in the main building, "other assigned duties."

4. Size of sections. A study of the size of sections¹ in the main building and in the annexes shows that they are much larger in the annexes, as shown by the accompanying table opposite page 116.

The sections in the main building are divided into two (approximately) equal parts by the line between "30" and "31"; in the annexes between "35" and "36".

Among the different annexes the terms of work covered vary from two to six. The above comparison is made between the size of sections in the eight terms in all schools and the size of sections in all terms in the annexes (be they two or more). But the same general statement is true if the main school be compared with the annex term by term.

¹ The chart showing the facts collected for this study is too large to be inserted here. It has been filed with the Committee on School Inquiry.

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For example, the first term sections in the main building are divided into two approximately equal parts between "35" and "36" in the scale at the top of the table, while in the same term sections in the annexes are divided between "37" and "38." This size of section is partially determined by the size of room in the annexes, the rooms in the elementary school buildings being larger than the rooms in the high school buildings, and partially by the fact that relatively fewer teachers are employed.

5. Changes among pupils. There is greater fluctuation in the number of pupils in the annexes than in the main buildings. The fluctuation is caused largely by the number of pupils who drop out of school, but those who only drop out of a subject are also included. The fluctuations in English are typical.

Table XXVI shows the number of pupils taking English in the first term in the main buildings and the annexes, in the schools indicated, and the fluctuations in each.

TABLE XXVI—PUPILS TAKING FIRST TERM ENGLISH
Main Buildings (Per Cent. of Loss 8.0)

Wadleigh.....	419	—54
Morris.....	527	—35
Erasmus Hall.....	563	+ 1
Manual Training.....	552	—62
Eastern District.....	405	—48
Totals.....	2,466	198

Annexes (Per Cent. of Loss 11.6)

Wadleigh.....	293	—26
Morris.....	245	+ 9
Erasmus Hall.....	137	—16
Manual Training.....	195	—35
Eastern District.....	69	—20
Totals.....	300	—41
	186	—34
	354	—44
Totals.....	1,779	207

From the preceding table it will be observed that, of the 2,466 pupils in first term of English in the high schools

indicated, 198, or 8 per cent., dropped the English work; in the annexes, of the 1,779 pupils in the same term of English, 207 pupils, or 11.6 per cent., dropped the English work.

Table XXVII shows the number of pupils taking English in the second term in the main buildings and in the annexes, and the fluctuations in each.

TABLE XXVII—PUPILS TAKING SECOND TERM ENGLISH

<i>Main Buildings (Per Cent. of Loss 9.6)</i>		
Wadleigh.....	265	— 9
Morris.....	182	—28
Boys'.....	57	— 2
Erasmus Hall.....	376	—49
Manual Training.....	372	—34
Eastern District.....	256	—23
Totals.....	1,508	145
<i>Annexes (Per Cent. of Loss 15.5)</i>		
Wadleigh.....	161	—13
Girls'.....	229	—35
	54	— 6
Boys'.....	105	—17
	132	— 9
Erasmus Hall.....	130	—29
	65	—12
Manual Training.....	147	—10
	98	—19
Eastern District.....	231	—59
Totals.....	1,352	209

Of the 1,508 pupils in the second term of English in the main buildings, 145 dropped out, or 9.6 per cent.; of the 1,352 pupils in second term in the annexes, 209 dropped out, or 15.5 per cent.

What is true of pupils in English is true of pupils in other subjects, namely, that the temporary conditions surrounding the annex are conducive to pupils' leaving school.

Other important considerations. 1. The department in the main building from which the first assistant is taken is deprived of the services of a first assistant as direc-

tor, because no first assistant is appointed in his place. The result is that an assistant teacher is temporarily put in charge of the department, which arrangement may or may not be satisfactory, depending upon the ability of the assistant teacher.

2. The first assistant in the main building, as chairman of his department, is responsible for the supervision and direction of the work of his department in the annexes. Inasmuch as the annexes are, in some cases, long distances from the main building (over twelve miles from Curtis High School), it is obvious that the first assistant cannot properly supervise the work of the teachers in his department in the annexes.

3. In view of the small number of sections (classes) in any given study in the annex, it is usually necessary for a teacher to teach subjects other than those for which he is licensed. This means that the teacher of mathematics may be called upon to teach biology and English. We have been informed that in one annex, for example, there are no teachers of mathematics, all the work in mathematics being divided among teachers in other departments.

4. There is no school spirit in the annex such as there is in the main building. Teachers, in general, dislike to work in the annex and pupils also object to attending the annex. Our attention has been drawn to several cases in which pupils have traveled long distances in order to attend the high school, although the annex was close to their homes.

5. Pupils and parents have a right to the advice and counsel of the principal of the school, rather than that of the "teacher-in-charge," no matter how efficient he may be.

6. Usually, only one language is offered in the annex, so that a pupil in the annex has not the same opportunity to elect from three languages that is afforded to pupils in the main building.

7. In some cases (Morris High School, for example) all the commercial work is done in the annexes, so that pupils who take the three-year commercial course have to go to the annex, even though they may live much nearer the main building. This means, also, that no commercial electives are available to pupils in the general course in the main building.

8. From the standpoint of the school as a whole, sections could be more effectively organized in any subject if the annexes could be merged in the main building. For example, suppose there were forty-five pupils in second term work in the annex and seventy-five pupils in the same term of work in the same subjects in the main building; it is clear that there must be two sections in the annex and there ought to be three sections in the main building. If these 120 pupils were in the same building, they could be grouped into four sections of normal size, instead of five small sections, or three or four sections, of which some must be altogether too large. By this grouping into four sections, one section could be eliminated and one fifth of the work of a teacher could be saved.

At best, the annex should be considered an undesirable temporary expedient. The teaching is likely to be inferior; the teachers change often, and are called upon to do a relatively large amount of teaching as compared with teachers in the main building; the work cannot be made as effective in the annex because the equipment is usually not so good; the supervision is not so effective; the sections (classes) are larger; the educational offering is more limited; and, finally, conditions generally militate against successful work.

In addition, while the annex may serve a purpose as a temporary expedient, it defeats its own purpose as a permanent part of a high school system. If allowed to continue, it becomes a means of increasing, rather than decreasing, congestion in the main building. For instance, a regular high school building is built to accommodate a given

number of pupils, distributed through a four-year course. Through a steady increase in attendance, more pupils apply for admission to the first-year class in this school than can be accommodated. The Board of Superintendents then recommends the opening of an annex to take some of the first-year pupils, and designates it an annex of this school. The work is usually extended over two terms (one year) of work, or more, after completing which pupils are transferred to the main building. In the meantime, the attendance in the main building has been at the maximum capacity of the building. The inevitable result is that the pupils, when transferred from the annex, become a direct cause of congestion, and, in most cases, the cause of very serious administrative difficulties in the main building. When, from term to term, the pupils from three or four annexes pour into the main building to take their places in sections of the second or third year of the course, the annex is a direct cause of, rather than a relief for, crowded and unsatisfactory conditions in a school.

The annex should, therefore, be regarded as only a temporary means of caring for a group of pupils until an additional high school can be organized and suitable buildings built.

In spite of these unfavorable conditions, the annex has already become altogether too permanent an institution in secondary education in New York City. Only adequate accommodation for high school pupils will enable the city to get rid of annexes. Steps should be taken at once to provide more high school buildings.

OUR RECOMMENDATIONS

I. We heartily endorse Superintendent Maxwell's recommendation in his report of 1909, page 112, "that hereafter no high school be erected to accommodate more than 1,500 students." The same recommendation has been made more than once by Superintendent Maxwell, and similar rec-

ommendations have been made by Associate City Superintendent Stevens.¹ High school principals testify unanimously that the present schools are much too large, and that 1,500 pupils should be the maximum for one school. This size is satisfactory educationally, because the principal and the teachers can give more direct attention to the individual pupils of the school, and, hence, they can increase the efficiency of the school work. It is satisfactory economically because a school of 1,500 pupils is large enough for an effective economic organization.

The most common argument that has been advanced against the establishment of smaller schools and more of them, instead of the present practice of establishing a few schools of enormous size, is the cost of school sites. This argument has little force. The cost of a school site is always a relative matter, inasmuch as the high cost of a site in any city indicates that the property in the vicinity, or in the city as a whole, is likewise high. To put it briefly, expensive school sites mean a high valuation of property which is able to bear the expense. The City of New York is just as able to purchase as many school sites as it needs as is any city in the country.

2. We recommend that a definite policy be adopted of establishing high schools in various boroughs of the city to replace the annexes. As an illustration, the Borough of the Bronx has only one high school, which is so overcrowded that there are pupils on part time in the main

¹ "I think all will agree that many of our high schools, regarded as units of organization, are too large. We place the immediate direction in the hands of a principal; we impose on him responsibility; we require him to master the details of administration; we expect him to study the needs and capacities of each pupil; we direct him to supervise the work of his teachers and to aid and correct those who are weak or unsuccessful. With a registration of more than one thousand pupils this is impossible. If each of our high school organizations could be held to this maximum, it would be possible to do more for the individual pupil and to regulate the work of new and inexperienced teachers."—Associate City Superintendent Edward L. Stevens, in Ninth Annual Report of the City Superintendent of Schools of the City of New York, for the year ending July 31, 1907, page 247.

school, and there are 751 pupils in two annexes occupying rooms which are as badly needed for elementary school work.

3. We recommend, also, that a plan be adopted of establishing the different types of specialized high schools throughout the city as a basis for studying their effectiveness. We have already pointed out that, everything considered, a school with a single purpose can be more effectively organized and can carry out its purpose more satisfactorily than a school which undertakes to accomplish two or three distinct purposes. The reason for providing three curricula within a given high school, such as Bryant, is that the three different types of education may be made more easily available to the 1,000 pupils in the school. If, however, the Board of Education should adopt a policy such as we recommend of limiting the size of high school to 1,500 pupils, and, further, if these schools of different types should be located throughout the city in such a way as to make them as readily accessible as possible to the pupils who will attend them, then the need of having more than one curriculum in a given high school will not be as great as it is at the present time.

Further, new high schools are needed in those parts of the city where sites are less expensive than in Manhattan. The Board of Education should also adopt a policy of anticipating high school needs by securing sites at advantageous times.

Effectiveness and availability of instruction and effectiveness of administration require that schools be limited in size, that schools be established to take the place of annexes, and that different types of specialized high schools (recommended page 126) be properly distributed throughout the city. Such a plan would result in making education more available to the high school population, would increase the effectiveness of that education, and would remove some of the problems of administration in the large schools.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following is a condensed summary of our findings and recommendations on the responsibility of the Department of Education for the size of the high schools.

We find:

1. That the high schools in New York City, in most cases, are so large that (a) it is doubtful whether the principal can discharge satisfactorily his responsibility to pupils, parents, and teachers; (b) that their very size interferes with their effective administration; (c) that an assembly of all students at one time is impossible; and (d) that general facilities, such as lunch rooms, lockers, etc., cannot be adequately provided.
2. That the system of annexes is unsatisfactory, because, among other reasons,
 - a. The opinion prevails that the teachers are inferior to those in the main building.
 - b. The teachers change often.
 - c. The teachers do relatively more teaching than in the main building, and often teach subjects other than those which they are licensed to teach.
 - d. The sections are too large, being considerably larger than sections in the main building.
 - e. The students drop out faster than in the main building.
 - f. The educational offering is not equivalent to the offering in the main building.
 - g. School spirit is lacking; teachers and pupils both prefer the main school.
 - h. The organization of the school as a whole cannot be so effective with annexes as it could be if all pupils were in one building.

We recommend:

1. That high schools hereafter established be limited to 1,500 pupils.
2. That a definite policy be adopted of establishing high schools in various parts of the city to take the place of annexes, and that additional high schools be established in accordance with that policy.
3. That a plan be adopted of establishing the different types (specialized and cosmopolitan, particularly the former) of high schools throughout the city, and that a careful study of their comparative effectiveness be made from year to year.

CHAPTER XV

THE DEPARTMENT OF EDUCATION AND THE SIZE AND NUMBER OF CLASSROOMS

ROOMS RESPONSIBLE FOR SMALL AND LARGE SECTIONS

THE effectiveness of the organization of a high school is directly affected by the size and number of classrooms available for recitation purposes. The size and number of classrooms are at present responsible for some of the small sections found in the high schools. Small rooms which were never intended for classroom purposes, are being used to help to accommodate the constantly increasing register. On the other hand, large rooms in the elementary school buildings, and also in the main buildings, account for many of the large sections. It is inevitable that, wherever large rooms are available, they will be filled whenever the attendance increases beyond the intended working capacity of the school.

RELATION TO THE NUMBER OF TEACHERS

The above has a direct bearing upon the amount of teaching to be done, and the number of teachers it takes to care for a given number of pupils, and, hence, the cost of instruction. For example: Erasmus Hall High School had seven teachers to teach 765 pupils in the department of German in the spring term of 1911, or an average of 109.2 pupils per teacher. DeWitt Clinton High School had only seven and four-fifths teachers to teach 1,135 pupils during the same term, or an average of 145.5 pupils per teacher. For the Department of Education to say that the larger

number of teachers in the Erasmus Hall High School is required because small classrooms must be used is not a satisfactory answer, because it is one of the functions of the Board of Education to provide adequate classrooms. Hence, if the rooms used would not accommodate a full-sized class, it is pertinent to ask why such conditions have not been anticipated and a way provided to avoid them.

A FALSE ECONOMY

It is a defensible thesis that whenever a teacher teaches a group of pupils half the size of a regular class, due to a lack of adequate classrooms, that teacher is not rendering adequate return to the city for the money expended. The work of a teacher of a class of fifteen pupils in a small room is only one half as productive as it should be, because it reaches only half as many pupils as it should. It is a false economy (whether practiced by the Department of Education or by the Board of Estimate and Apportionment) to force the use of inadequate classrooms by not providing sufficient classrooms of the proper size. It creates a necessity of providing teachers otherwise unnecessary, and the educational returns from such teachers are not commensurate with their cost.

RECOMMENDATIONS

1. Limit the seating capacity of classrooms to the maximum (or a little more than the maximum) standard size of section. In no other way can the filling of every available room be avoided.
2. Provide special study halls. It is important to consider the matter of study halls in connection with the number of available classrooms. In Wadleigh and Erasmus Hall High Schools, for example, there are regular study halls, seating from 125 to 150 or more pupils. Each hall is in charge of one teacher during each period of the day.

Our study of the work of teachers shows that chairmen of departments give an average of two periods per week to study hall supervision, and teachers an average of 3.16 periods per week. Thus the present practice of supervising from twenty-five to forty pupils studying in regular classrooms consumes over 12 per cent. of the time of the teachers. This time could be reduced by 75 per cent. if study halls were provided, so that one teacher (or possibly two) could supervise from 125 to 150 pupils, instead of only twenty-five to forty, leaving other teachers free to teach or to perform other services. With larger study halls, the amount of time required of teachers to supervise study would be reduced, and more classrooms would be available for recitation purposes.

3. Provide more classrooms. The obvious way to overcome the lack of adequate classrooms is to provide more buildings, with classrooms enough to accommodate the pupils.

The above are all matters to which the Department of Education and the school architect can profitably give attention.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following is a condensed summary of our findings and recommendations on the responsibility of the Department of Education for the size and number of classrooms. We find:

1. That some small sections are the result of the principals being forced to use small rooms in the main building.
2. That some large sections are the result of the principals being forced to use large rooms, particularly in annexes; some are also the result of filling classrooms in the main building to overflowing on account of congested conditions.

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3. That small sections mean expensive instruction, because the teaching reaches a comparatively small number of students.
4. That large sections often mean ineffective instruction, because the number of pupils a teacher can satisfactorily teach is limited.

We recommend:

1. That the seating capacity of classrooms be limited to the maximum standard size of section to make over-size sections impossible.
2. That in the new buildings constructed, and, as far as practicable, in the buildings now in use, special study halls, seating 125 to 150 pupils, be provided, so that less time of teachers would be required in study hall supervision, and regular classrooms could be used more largely for recitation purposes.
3. That more classrooms be provided through the building of more high schools.

IN TRAINING SCHOOL (THEORY DEPARTMENT)

for *subject* is to be increased or decreased.

EDUCATION

YORK

.....School

gh of

.....191.....

this school, as follows:

ED OR DECREASED

Laboratory Assistant	Library Assistant		Clerical Assistant		Critic Teacher		Total	
To	From	To	From	To	From	To	From	To



CHAPTER XVI

THE DEPARTMENT OF EDUCATION AND THE NUMBER OF TEACHERS EMPLOYED

NUMBER OF TEACHERS DIRECTLY AFFECTS ORGANIZATION

THE most important factor in determining effective high school organization is the number of teachers employed in the various departments of study. This statement is so obvious as to require no argument. As the number of teachers is increased, the number of sections can be increased and the over-size sections reduced. On the other hand, if the number of teachers remains the same, and the number of pupils increases, the number of pupils per section must be increased.

Further, the appointment of teachers is comparatively the easiest, quickest, and most effective method of improving the organization of a school. Changes in the curriculum, the size of the school, and the number of classrooms available are factors affecting the organization of the school which cannot be changed at will; they are the result of deliberation and planning—in fact, the result of a policy—and can be changed only by a change in general policy. The appointment of teachers is a continual administrative function (and changes in curricula should be). But the building of school buildings is a matter of policy. It should be the result of a well-conceived plan which should anticipate future needs. This being so, teachers should be appointed to serve not only normal needs (i. e., when the size of

school, the program of studies, and the size and number of classrooms are satisfactory), but also to offset, as far as possible, unsatisfactory conditions affecting organization. In other words, these controlling factors must all be taken into consideration when any one of them is at issue, to the end that the most effective organization that the conditions permit may result.

THE METHOD OF APPOINTMENT

The method of estimating the need of high school teachers for budget purposes has been discussed in another part of this report (see page 143). We are here concerned with the procedure by which these teachers are appointed after they have been provided for in the budget. New teaching positions are established by the Board of Superintendents upon the recommendation of the Associate City Superintendent in charge of high schools. His recommendation is based upon applications for additional teachers, made by high school principals and addressed to the Board of Superintendents. On the other hand, the same procedure is followed in case a principal declares "teachers in excess." In no other single way does the action of the Associate City Superintendent so directly affect the internal organization of each school.

THE METHOD NOW IN USE IS INADEQUATE

The blank sent to the principal and used by him in making application for teachers is shown opposite page 131.

The important items on this blank are:

1. The number of "positions to be increased or decreased," classified by rank and sex of teachers, and subject to be taught.
2. "Total register of the school."
3. "Average number of pupils per teacher, including each rank, except principal, library assistant, and clerical assistant."

4. "Number of pupils to be instructed on (date), in the subjects for which new teachers are needed, and the present number of teachers (including vacancies) of such subjects."

This information is inadequate for the purpose to be served. A study of the blank will show that there are two items which are apparently considered a satisfactory basis for determining whether a decrease or an increase in the number of teachers in a given high school is desirable, viz., (1) "the average number of pupils per teacher" for the school as a whole, found by dividing the "total register of the school" by the number of teachers employed, exclusive of the principal, library and clerical assistants; and (2) the average number of pupils per teacher in the department in which the change in organization is proposed. This average (which is not given, but is implied in the blank) is found by dividing the number of pupils by the number of teachers in the department in which the change is proposed. Let us consider each of these items in turn.

(1) "*Average number of pupils per teacher*" for the school as a whole. Such a figure as the "average number of pupils per teacher" in a given high school cannot show whether new teachers¹ are needed, because this "average" legitimately varies greatly among different schools, and also varies from term to term in the same school. Therefore it cannot constitute a satisfactory standard for determining whether additional teachers are necessary or justifiable in a given school. A standard must be a measure which is constantly, and approximately, attainable in all schools, or it cannot be a satisfactory standard for passing judgment on the practice or conditions in a system of high schools. The "average number of pupils per teacher" for the school as a whole is not such a standard.

¹ In this discussion we shall consider the case of new teachers only, although the case of "teachers in excess" would be handled in the same way.

(2) *The average number of pupils per teacher by departments in a school.* The numbers on which this average is based are really the first essential items which should constitute a recorded basis for the principal's request for, and the Associate City Superintendent's approval of, additional teachers for a department of study in a high school. It is important to know how many pupils there are in the department, and how many teachers there are to teach them, to indicate the size of the problem which confronts the school authorities of providing instruction in that department in a given school. But this is only the most general information, and neither these figures nor the average derived from them really furnish the necessary information for passing judgment on the need of additional teachers. Neither figures can be considered a satisfactory standard for passing judgment, because the schools cannot approximate to any uniform standard for the city as a whole, as shown by the table on the following page.

Table XXVIII (see page 135) shows the number of pupils taking German, the number of teachers of German, and the average number of pupils per teacher in German in all the high schools.

This table shows great variation in the average number of pupils taught by a teacher of German in the different high schools of the city. This variation ranges from an average of 186.5 pupils per teacher in High School of Commerce to 102.7 pupils per teacher in Wadleigh High School. If there is a standard number of pupils for each teacher of German in the high schools of New York City this table certainly does not reveal it, because, rather than showing even approximate uniformity, it shows great diversity. This diversity is to some extent inevitable and justifiable, and, hence, on that account, a standard "average number of pupils per teacher" for a department of study cannot be approximately maintained for all the high schools of the city. Consequently, the average number of pupils per teacher in a department cannot be a satisfactory basis for

estimating the need of additional teachers in that department in any given high school.

Further, if we classify the high schools according to the total number of pupils taking German, we find the same variation that was found among the schools of the city taken as a whole. In those schools with 500 or less pupils

TABLE XXVIII

High Schools	Pupils	Teachers	Average
DeWitt Clinton.....	1,135	7 $\frac{1}{2}$	145.5
High School of Commerce.....	1,119	6	186.5
Stuyvesant.....	1,384	9 $\frac{3}{4}$	144.2
Wadleigh.....	719	7	102.7
Washington Irving.....	2,619	15 $\frac{1}{2}$	172.3
Morris.....	1,793	12	149.4
Girls'.....	1,274	9 $\frac{1}{2}$	138.5
Boys'.....	833	6 $\frac{1}{2}$	122.5
Erasmus Hall.....	765	7	109.3
Manual Training.....	1,972	14	140.8
Commercial.....	1,781	10	178.1
Eastern District.....	1,547	10	154.7
Bushwick.....	741	5	148.2
Bryant.....	497	3	165.7
Newtown.....	492	3	164.0
Flushing.....	340	2 $\frac{1}{2}$	121.4
Far Rockaway.....	149	1 $\frac{1}{2}$	124.2
Jamaica.....	525	4 $\frac{1}{2}$	125.0
Richmond Hill.....	539	4 $\frac{1}{2}$	128.3
Curtis.....	444	4	111.0

In the cases of Manual Training, Bushwick, and Curtis High Schools the figures include the pupils taking French. In such cases, of course, the number of teachers teaching French is included.

The data for this table were taken from the "Program of Daily Recitation" sheets furnished to the Department of Education by the high school principals for the February-June term, 1911. The figures are for the main building and the annexes combined, in so far as the data concerning the annexes were interpretable.

in German the variation in the average number of pupils per teacher is from 111.0 in Curtis High School to 165.7 in Bryant High School, as follows:

	No. of Pupils	No. of Teachers	Average
Far Rockaway.....	149	1 $\frac{1}{2}$	124.2
Flushing.....	340	2 $\frac{5}{8}$	121.4
Curtis.....	444	4	111.0
Newtown.....	492	3	164.0
Bryant.....	497	3	165.7

In those schools with from 500 to 1,000 pupils in German the variation in the average number of pupils per teacher is from 102.7 in Wadleigh High School to 148.2 in Bushwick High School, as follows:

	No. of Pupils	No. of Teachers	Average
Jamaica.....	525	4 $\frac{1}{2}$	125.0
Richmond Hill.....	539	4 $\frac{1}{2}$	128.3
Wadleigh.....	719	7	102.7
Bushwick.....	741	5	148.2
Erasmus Hall.....	765	7	109.3
Boys'.....	833	6 $\frac{4}{5}$	122.5

In those schools with 1,000 to 1,500 pupils in German the variation in the average number of pupils per teacher is from 138.5 in Girls' High School to 186.5 in the High School of Commerce, as follows:

	No. of Pupils	No. of Teachers	Average
High School of Commerce	1,119	6	186.5
DeWitt Clinton.....	1,135	7 $\frac{4}{5}$	145.5
Girls'.....	1,274	9 $\frac{1}{2}$	138.5
Stuyvesant.....	1,384	9 $\frac{3}{5}$	144.2

In those schools with 1,500 to 2,500 pupils in German the variation in the average number of pupils per teacher is from 149.4 in Morris High School to 178.1 in Commercial High School, as follows:

	No. of Pupils	No. of Teachers	Average
Eastern District.....	1,547	10	154.7
Commercial.....	1,781	10	178.1
Morris.....	1,793	12	149.4
Manual Training.....	1,972	14	140.8
Washington Irving.....	2,619	15 $\frac{1}{2}$	172.3

We conclude, therefore, that a standard "average number of pupils per teacher" for a department of study cannot be approximately maintained either for the high schools of the city, irrespective of size, or for schools with approximately the same number of pupils in that department. The conclusion is, therefore, reinforced that the need of additional teachers in each school must be judged according to its own peculiar conditions, and not according to any "average number of pupils per teacher."

WHAT THE BLANK SHOULD CONTAIN—RECOMMENDATIONS

The essential facts to determine the need of additional teachers in a department of study are these:

1. Concerning the size of sections:
 - a. How many pupils are there in the department, and how are they distributed by terms of work pursued?
 - b. What are the number and size of sections by terms of work, as organized at the time of the application?
 - c. Is the size of sections, as organized, in harmony with the standards fixed by the Board of Superintendents?
2. Concerning the amount of teaching:
 - a. How many periods of teaching and other work are teachers already employed in the department doing?
 - b. How much teaching and other work is there for the additional teacher or teachers to do?
 - c. Is the number of periods of teaching now being done by teachers in the department in harmony with the standards fixed by the Board of Superintendents?

As has been stated (page 4), the size of section is important educationally and economically. The size of section and the amount of teaching to be done are inseparably connected. The method, therefore, of determining the desirability or necessity of an increase or a decrease in the number of teachers in a department in any high school must incorporate as essential data the size of section and the amount of teaching which teachers already employed are doing. If the size of sections in a given department is larger than the standard size of section, it is obvious that additional sections should be formed, thus increasing the amount of teaching to be done. An increase in the amount of teaching to be done would necessitate an increase in the number of teachers to do it, provided the teachers already employed were doing the standard amount of teaching and other work. It is necessary to know, therefore, the amount of work which teachers already employed are doing before additional teachers can wisely be asked for by the principals, or judiciously recommended by the Associate City Superintendent. If the teachers already employed are teaching the standard amount of work, obviously any increase in the number of sections must be cared for by additional teachers. If teachers are teaching more than the standard number of periods, and it is necessary to reduce that amount of work, clearly it can only be done by the employment of additional teachers.

If abnormal conditions, affecting the size of section and, consequently, the number of teachers needed, exist in a school, a statement of these facts should be added to the information already indicated as essential before the desirability of a change in the number of teachers will be apparent. Therefore, the principal of a high school, in making application for an increase in the number of teachers in a given department, should furnish the above information and a statement of the unusual conditions affecting the work of the department.

With such information as a basis, the Associate City

Superintendent in charge of high schools is fully in a position to approve or disapprove the application. All information which the principal furnishes should be presented in a written report to the Board of Superintendents, accompanied by the approval or disapproval of the Associate City Superintendent. If the foregoing data were the basis of the decision to increase or decrease the number of teachers in a department of study, teachers would be provided where they are actually needed to maintain both the standard size of section and the standard number of periods of teaching per week per teacher. On the other hand, teachers would be declared in excess in certain departments of study where there is now apparently enough work for them to do, but only apparently, because, the size of section being below the standard, their number makes necessary the present number of teachers. Hence we recommend the adoption of a blank which shall incorporate the essential data by which the need of additional teachers can be shown. Only when such a blank is used will it be certain that teachers are provided where they are actually needed, and declared "in excess" where they are not needed.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following is a condensed summary of our findings and recommendations on the responsibility of the Department of Education for the number of teachers employed.

We find:

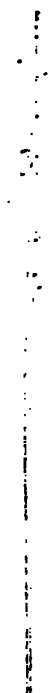
1. That the method of increasing or decreasing the number of teachers in a department of study does not insure the appointment of teachers where they are needed.
2. Nor does it insure the declaring of teachers "in excess" where they are not needed.

3. That, in many schools, there is not a sufficient number of teachers to maintain the standard size of section and the standard week's work for a teacher fixed by the Board of Superintendents.
4. That, in some schools, there are more teachers than would have been necessary had the size of section not been abnormally small.
5. That the blank now used in the reorganization above noted is inadequate for its purpose.

We recommend:

1. That a reorganization blank be adopted which shall furnish the following essential facts, on which the need of changing the number of teachers in a department is based.
2. Concerning the size of sections:
 - a. How many pupils are there in the department, and how are they distributed by terms of work pursued?
 - b. What are the number and size of sections by terms of work, as organized at the time of the application?
 - c. Is the size of sections, as organized, in accordance with the standards fixed by the Board of Superintendents?
3. Concerning the amount of teaching:
 - a. How many periods of teaching and other work are teachers already employed in the department doing?
 - b. How much teaching and other work is there for the additional teacher or teachers to do?
 - c. Is the number of periods of teaching now being done by teachers in the department in accord with the standard fixed by the Board of Superintendents?

**Estimating the Number of High School Teachers
Needed—A Résumé**



CHAPTER XVII

THE IMPORTANCE OF THE PROBLEM IN THE CITY OF NEW YORK

IN order to understand the importance of the problem of estimating the number of high school teachers needed from year to year in the City of New York, it is necessary to know, in general, how the Education Budget is prepared and money appropriated for school purposes. According to the regular procedure, additional high school teachers can be employed only in case money has been appropriated in the preceding Education Budget to pay them. In order to secure the appropriation of such money at any given time there must have been inserted in the preceding Education Budget an item showing the estimated number of additional high school teachers needed and the sum required to pay their salaries. By the approval of such an item in the budget the stated amount of money becomes available for the employment of additional high school teachers by the Board of Education as such teachers are needed. It will be seen, therefore, that in order to secure the necessary teachers something more is involved than the mere appointment of them by educational officials when needed. The probable educational needs of the high schools during an ensuing period of eighteen months must be considered, and estimates must be prepared for the Education Budget stating the number of teachers of various ranks necessary to meet such needs. These estimates must be presented in such a clear and convincing form, and defended both in private conferences and at public hearings with such incontestable facts, as to secure the necessary ap-

proval of the city officials, some of whom are likely to be more interested in keeping down the tax rate than they are in providing funds adequate to the maintenance of schools. To show the importance to the City of New York of the problem of estimating the number of high school teachers needed, we shall describe briefly how an Education Budget is prepared, and how money is appropriated for school purposes.

HOW AN EDUCATION BUDGET IS PREPARED

The necessity of preparing an Education Budget in the City of New York arises from the fact that the Board of Education is not a tax-raising body, but must depend for money with which to maintain the school system upon the approval of its budget estimates by the municipal authorities. The Education Department is considered by the city government as a department of the city; hence it is required to prepare its budget estimates at the same time and in the same manner as other city departments. The complete city budget for all departments must be prepared in time to be considered and approved before December 31 each year. This means that the department estimates must be made and the budget prepared during the summer and early autumn months. Owing to the fact that the fiscal year of the City of New York ends on December 31 each year, whereas the school year ends July 31, the Education Department must prepare its budget estimates for practically a year and a half of school time. The estimates, therefore, always cover a period of eighteen months, even though the first six months of that time were covered by estimates in the previous budget. Thus, in order to provide funds for the employment of additional high school teachers in the September-January term of the school year 1913-14, an estimate of the number of additional teachers needed in that term was included in the Education Budget prepared by the Education Department during the summer

of 1912. The number of teachers needed in this same term of school was estimated again in the budget prepared in 1913.

The estimate of the number of additional high school teachers needed is first made by the principals of the schools, who prepare these estimates annually by June 15 on blanks furnished by the City Superintendent of Schools. The estimates are then forwarded in duplicate to the District Superintendent, who in turn forwards them to the Associate City Superintendent in charge of High Schools. Either of these officials may alter the estimates as he sees fit before approving them. The estimates are then forwarded to the City Superintendent and, after such revision as he may make in them, form part of the complete Education Budget. The budget is then submitted to the Board of Estimate and Apportionment. The process of preparing estimates in the Education Budget is now completed.

HOW MONEY IS APPROPRIATED FOR SCHOOL PURPOSES

The Board of Estimate and Apportionment of the City of New York consists of the Mayor, the Comptroller, the President of the Board of Aldermen, and the Borough President of each of the five Boroughs of Manhattan, Brooklyn, Queens, The Bronx and Richmond. As its name indicates, this Board passes judgment on the estimates of the necessary expenditure in each department of the city government. We have seen how the Board of Education, through its agents and officials, prepares and submits to the above Board its budget estimates of the funds necessary to employ such additional high school teachers as may be required during the next eighteen months.

Inasmuch as the Board of Estimate and Apportionment must consider all the budgets of the various city departments within a relatively short time, it is necessary to assign these budgets to committees. The Committee in charge of the Education Budget usually receives it in Sep-

tember, and at once begins consideration of its many items. This budget is, at the same time, subjected to the scrutiny of the Statistical Bureau of the Finance Department. Private conferences are held between the agents of the city government and officers or representatives of the Education Department. Public hearings are also held by the Budget Committee, at which time the school officials urge on the Board of Estimate the necessity of appropriating the full amount of the budget as prepared. At these hearings the members of the Budget Committee question the representatives of the Education Department in order to ascertain the validity of the basis on which the various estimates are made. During these public hearings representatives of various organizations also appear to speak for or against particular items in the budget. Such representatives have frequently an interest in opposing the granting of further educational supplies.

After the hearings are over, and a conclusion has been reached, the Budget Committee reports to the Board of Estimate, and the Board by formal action fixes finally the amount of the Education Budget. The Board of Estimate then submits the Education Budget (together with the budgets of the other city departments) to the Board of Aldermen, who may reduce the amount of the budget as already fixed. The budget then goes to the Mayor, who in turn may veto any reduction made by the Board of Aldermen. The Mayor's signature completes the process of fixing the amount of the appropriation for the Education Department.¹

THE IMPORTANCE OF ACCURATE ESTIMATES

Estimating the number of high school teachers needed is of fundamental importance, educationally and economically. If there are not enough teachers to carry on the

¹For a more detailed discussion of this method of procedure and its results, see Moore, *How New York City Administers Its Schools*, in the School Efficiency Series.

work of a school according to sound educational principles, ineffective instruction results. Lack of a sufficient number of teachers means over-size classes, or overworked teachers, or both—all of which is at the expense of the pupil's education. On the other hand, too many teachers, or ineffective use of teachers, results in a loss to the city, because the educational returns are not commensurate with the financial expenditures.

In the preparation of a budget blank for estimating the number of high school teachers needed we proceeded on the assumption that, if the Board of Estimate and Apportionment is to discharge wisely its function of granting, or refusing to grant, funds for the employment of additional teachers, that board must have the facts upon which to base a judgment on the need of such expenditures as the principals' estimates require. Hence, a satisfactory budget blank must contain the essential information as to the facts upon which the principal bases his estimates as a basis upon which the Board of Estimate and Apportionment may judge the validity of those estimates.

CHAPTER XVIII

THE SCOPE AND METHODS OF THE INVESTIGATION

THE BLANK IN USE ANALYZED AND FOUND INADEQUATE

AFTER stating in general terms the importance of accurate budget estimates, and indicating the information necessary for making them, the report takes up an "Analysis and Criticism of the Board of Education's Blank" used in 1911, entitled, "Report on the Need of Teachers in the High School for 1911." As a result of this "analysis and criticism," we came to certain conclusions, which were stated in the form of the following summary in the report.

The blank used in 1911 is defective in the following respects:

1. The data do not cover a sufficient period of time—only three years.
2. The blank contains non-essential and misleading data; e. g., the average number of pupils per teacher, based on the gross register and the teaching force, including persons who do not teach.
3. It contains non-comparable and unrelated data; e. g., the dates in the various tables do not correspond.
4. It does not contain any data whatever concerning the organization of the school to show whether the recitation sections are of standard size, or whether teachers already employed are teaching the standard number of periods per week.

A NEW BLANK PREPARED

Assuming that the present method of procedure in obtaining money for additional high school teachers is to be continued, and assuming also that efficiency in this method of procedure requires that the facts on which the principals base their estimates be presented to the Board of Estimate and Apportionment, we prepared a blank which should meet the requirements of the situation. The preparation of this blank was based on the following principles:

1. Since there is a difference between administrative data and data for budget purposes, administrative data should be included in a blank to be used for budget purposes only so far as such administrative data form the basis of budget estimates.
2. Data showing past experiences often cover practices which ought not to be perpetuated (e. g., large sections and too many periods of teaching per teacher), and, therefore, past experiences should not form the only basis for budget requests.
3. Past experiences, as the basis of budget estimate, should always be supplemented by data showing the present organization of the school (e. g., size of section, amount of work teachers are doing), in order that justifiable improvements may be incorporated into the future organization of the school.
4. The data showing past experience should be compiled for a sufficient length of time (we suggest five years) to show a general trend in the school, in order that a temporary or exceptional condition may not have too much weight.
5. All relevant data now used by principals in estimating the need of high school teachers should be covered by such a blank in order that those who are responsible for approving budget estimates may have at their disposal the same information for passing on the estimated needs as those who prepare the estimates.

We invited the principals of the twenty high schools to a conference in the rooms of the Committee on School Inquiry, to consider the problems connected with making satisfactory estimates of the number of high school teachers needed from year to year, and also to discuss the general form of blank needed on which to make satisfactory estimates. As a result of this conference, and at our request, the High School Principals' Association instructed its president to appoint a Committee to coöperate with us in working out the further details of the blank. The president appointed such a Committee, and many conferences were subsequently held with the Committee and with its members individually. At the final conference with the Committee the blank as it had been prepared was approved.

The new blank gives the net register, the number of pupils and teachers for each subject or department by school terms during a period of five years, with the per cent. of increase in net register and number of teachers during that period. In addition, the blank contains an analysis of the organization of the high school in the year of the estimate. The data showing past experience and the detailed analysis of the present organization of the high school together constitute a satisfactory basis for revealing clearly how many teachers are needed. By incorporating in the blank these essential data, on which the principal bases his estimate, the Board of Superintendents and the Board of Estimate and Apportionment are furnished with the information they must have to judge the validity of a principal's estimate.

CHAPTER XIX

GENERAL CONCLUSIONS ON THE USE OF THE NEW BLANK

FACTORS CONDITIONING THE EFFECTIVE USE OF THE NEW BLANK

OUR conferences with the high school principals on the new blank have revealed no little fear on their part that the data might be misinterpreted by those who have to approve of budget estimates. Nevertheless, the principals have expressed themselves as satisfied with the blank. It is obviously important that there should be a clear understanding of the purpose of the blank and the method of using it.

The Board of Superintendents, the Board of Education, and the Board of Estimate and Apportionment should have at their disposal the essential information which the principals use in estimating their need of additional teachers. The high school principals have heretofore estimated with care the teachers needed, but the blank used has not incorporated all the essential facts. The purpose of the new blank is to show the basis of recorded facts on which the principal's estimated need for additional teachers rests; this basis being clearly shown, the responsibility of the principal is discharged. The Board of Superintendents and the Board of Education then become responsible for approving or disapproving the principal's estimates, and the Board of Estimate and Apportionment, in turn, becomes responsible for granting or withholding the funds required by the estimates.

This blank must be interpreted by the educational au-

thorities, and by the Board of Estimate and Apportionment, in the light of high school conditions and needs. For instance: this blank will show that there are small classes in Greek in some schools, and also relatively small classes in the fourth year of other elective subjects. This is inevitable; first, because the number of pupils taking Greek as a college preparatory subject is always small; and, second, because the principal of a high school cannot control arbitrarily the number of pupils in elective subjects. If a boy or girl enters a high school having a course of study in which Greek is found, to take a preparatory course for a college which requires or prefers Greek as an entrance subject, the high school ought, in general, to afford the pupil instruction in Greek. If it does not, it fails to discharge its full duty, which is to afford all pupils equal opportunities to obtain the kind of instruction they need.

Again, the pupils taking an elective subject may number several hundred in the first term, but the number diminishes so rapidly that, by the fourth year, it is relatively small, often, indeed, numbering not more than fifteen or twenty pupils—one section. For example: for those pupils who elect in their first year to take the four years of German offered in the course of study, the school ought to provide that instruction throughout the four years, even though the number of pupils studying fourth year German is relatively small. It is, of course, legitimate for a school to fix a minimum number of pupils per section, and announce that a section will not be organized for a smaller number of pupils; but that minimum should not be fixed too high, and need not be the same for all subjects or all schools. Small classes in some subjects—e. g., Greek—and later years of other elective subjects—e. g., mathematics, German, French—are inevitable and representative of normal conditions, and are defensible; hence, such conditions should not subject the principal to the contention that the organization of his school is unsatisfactory, nor to the charge of having overestimated his need of teachers.

The data contained in this blank should not be interpreted according to the standards of the elementary school. In the elementary school the organization is such that a teacher is provided for every forty or forty-five pupils in a given grade. The organization of the high school precludes the possibility of any such simple computation to determine the need of additional teachers. Consequently, the authorities who pass judgment on the estimates of the high school principals must know the conditions in the high schools in order to be able to approve or disapprove, intelligently, the principals' requests for additional teachers. Unless this approval is arrived at with the same care that is used by the principals in the preparation of their estimates, the effort to place the estimated need of high school teachers on a basis of recorded facts will be futile.

The fear has been expressed by high school principals that, even if this blank is satisfactory, it is likely that it will not be used for a sufficient time to prove its value. Experience has caused them to feel that changes among officials are likely to result in change of blanks. We suggest that the new blank be used for a reasonable time; and that the principals be invited annually by the Board of Education and by the Board of Estimate and Apportionment to make such suggestions of changes for improving it as experience may show are desirable.

The blank is the result of careful deliberation by us and by the high school principals, in view of the needs of the high schools, and of the information required by the school authorities and the Board of Estimate and Apportionment. A thoroughly satisfactory blank can be attained only when the authorities adopt some method by which the proper practice in using the blank may be utilized as a basis for improving it. Inasmuch as the purpose of the school authorities and the Board of Estimate and Apportionment is, or should be, to secure the recorded facts on which the principals base their estimates, that blank is satisfactory which is comprehensive enough to furnish such information

in the clearest form. On the other hand, as has already been said, the particular form of the blank ought to be revised from time to time, in accordance with suggestions made by the principals, inasmuch as they are the ones best qualified to suggest modifications in it—assuming, of course, that it shall always present clearly the facts which the Board of Education and the Board of Estimate and Apportionment need for their purposes.

We suggest that a representative of the high school principals be invited to be present at all conferences of the school authorities and the Board of Estimate and Apportionment, in which the high school estimates are under consideration.

SUMMARY

To sum up:

1. The principals, the Board of Education, and the Board of Estimate and Apportionment should have a clear understanding of the purpose and method of using this blank.
2. The purpose of this blank is to provide a means of putting the estimated need of teachers by the high school principals on a basis of recorded facts.
3. After the principal has furnished the necessary data on which he makes his estimate, the responsibility for approving these estimates rests on the Board of Superintendents, and the responsibility for granting the required funds rests on the Board of Estimate and Apportionment.
4. The data and estimates must be interpreted in the light of high school conditions and needs, and not according to elementary school conditions and needs.
5. The school authorities and the Board of Estimate and Apportionment should exercise the same care in passing on the data and the estimates that has been devoted to the preparation of the data and estimates by the principals.

6. The blank should be used for a reasonable period of time; and it should be revised by the principals as experience suggests the need of revision—always, however, with a view to providing more adequately the information needed by the school authorities and the Board of Estimate and Apportionment.

If these considerations are clearly understood and agreed upon by the principals who prepare the data on the blank, by the Board of Superintendents and the Board of Education, who are called upon to approve of the principals' estimates, and by the Board of Estimate and Apportionment, who finally approve the request for funds, the fears which have been expressed by the principals concerning the use of this blank, and the data which it contains, will be groundless.

**Summary of Findings and Recommendations
by Topics**

CHAPTER XX

SUMMARY OF FINDINGS AND RECOMMENDATIONS BY TOPICS

FOR convenience, the summary of our findings and recommendations is here presented by topics.

I. THE SIZE OF SECTIONS (CLASSES)

Our findings concerning the size of sections¹ may be summarized as follows:

1. Large sections are due to
 - a. The present official standard size—which is too large.
 - b. The lack of the necessary teachers.
 - c. In a few cases, a bad distribution of pupils by the principal.
2. Small sections are due to
 - a. The inevitably small number of pupils in the upper terms of work.
 - b. In a few cases, a bad distribution of pupils by the principal.

Hence, we recommend:

1. The adoption of a standard size of section of thirty pupils for all terms as a provisional standard to be tested in practice.

¹ For other factors which may affect the size of section, see p. 15.

2. The employment of enough teachers to make it possible for principals to keep the size of sections reasonably within the limits of the standard—twenty-eight to thirty-five pupils.
3. A careful study by the principals of the subject of program-making, to the end that unnecessary over-size sections may be reduced and unnecessary under-size sections may be avoided.

II. THE WORK OF CHAIRMEN OF DEPARTMENTS

We find that:

1. Over 75 per cent. of the chairmen in the larger high schools are teaching more periods per week than the maximum standard fixed by Associate City Superintendent Stevens.
2. Over 86 per cent. of the chairmen in the smaller high schools are teaching more periods per week than the standard fixed by Associate City Superintendent Stevens for schools of this size.
3. Teaching assignments to chairmen of departments in the larger high schools take so much of their time that each is left only 58.26 per cent. of the time the standard fixed by Associate City Superintendent Stevens contemplates.
4. Teaching assignments to chairmen of departments in the smaller high schools take so much of their time that each is left only 38.82 per cent. of the time the standard fixed by Associate City Superintendent Stevens contemplates.
5. Teaching and study hall supervision done by chairmen in the larger high schools consume so much time that chairmen have only 40.5 per cent. of the time for supervision and administrative work that the standard fixed by Associate City Superintendent Stevens contemplates.

6. Teaching and study hall supervision done by chairmen in the smaller high schools consume so much time that chairmen have only 19.76 per cent. of the time for supervision and administrative work that the standard fixed by Associate City Superintendent Stevens contemplates.

In view of the foregoing, the following recommendations are made:

1. The chairman of a department should, as in the case of other teachers, be allowed one free period each day.

2. The chairman of a department should be allowed two periods each month for the classroom visits and supervision of each teacher in his department.

3. If the chairman of a department is assigned administrative duties (as first assistant), his number of teaching periods should be correspondingly reduced, in order that he may still have the required amount of time for the satisfactory supervision of his department.

4. The chairman of a department should be relieved, as far as possible, from all purely clerical work, which work should be performed by additional clerks.

5. First assistants should be relieved, as far as possible, from supervising study halls, and, except occasionally, also from an official class, in order that their time may be devoted to a higher grade of professional work.

III. THE WORK OF OTHER TEACHERS

We summarize the discussion as follows:

1. Of the 671 teachers under consideration, 15.50 per cent. are teaching less than twenty periods; 82.11 per cent. are teaching from twenty to twenty-five periods; and 2.39 per cent. are teaching more than twenty-five periods.

2. Of the 226 teachers of English, 25.66 per cent. are teaching less than twenty periods per week; 32.3 per cent. are teaching more than twenty-one periods; and only 42 per cent. are teaching twenty or twenty-one periods—the standard fixed by the Department of Education.

3. Of the teachers of German, mathematics, biology, and history, 10.3 per cent. are teaching less than twenty periods; 2.7 per cent. are teaching more than twenty-five periods, and 86.96 per cent. are teaching from twenty to twenty-five periods—the standard fixed by the Department of Education.

If study hall supervision is added to teaching, the following results are obtained:

1. Of the 671 teachers, 2.4 per cent. are doing less than twenty periods of work; 41.4 per cent. are doing more than twenty-five periods of work; and 56.2 per cent. are doing from twenty to twenty-five periods of work.

2. Over 50 per cent. of all the teachers have administrative duties to perform in addition to teaching and study hall supervision.

3. Of the teachers of English, none are doing less than twenty periods of teaching and study hall supervision; 3.09 per cent. are doing twenty or twenty-one periods of work; 96.90 per cent. are doing over twenty-one periods of work; 26.5 per cent. are doing over twenty-five periods; and 33.6 per cent. are doing twenty-five periods.

4. Of the teachers in other departments under consideration, 3.6 per cent. are doing less than twenty periods of work; 48.98 per cent. are doing more than twenty-five periods of work; and 47.41 per cent. are doing from twenty to twenty-five periods.

Our analysis of the work done by teachers has led us to the following conclusions and recommendations:

1. Over 15 per cent. of the teachers under consideration are teaching less than the minimum standard—twenty periods—because they are doing work other than teaching. Are not some of these teachers doing too little teaching? We recommend that the Committee on High Schools of the Board of Superintendents¹ investigate the question and report to the Board of Superintendents.

2. If to teaching we add study hall supervision, we find that only a trifle over 2 per cent. of the teachers are doing less than twenty periods; and that over 41 per cent. are doing more than twenty-five periods of work (i. e., they do not have a free period each day). Are not some of these teachers doing too much work? We recommend, as before, that the Committee on High Schools of the Board of Superintendents investigate the question and report to the Board of Superintendents.

3. In addition to teaching and study hall supervision, over 50 per cent. of the teachers have other assigned duties.

4. We find, on examination, that some of these other assigned duties are purely clerical, and that a large part of them are administrative.

5. We recommend that the principals and the Board of Superintendents differentiate very definitely between what is clerical and what is administrative work.

6. We recommend (a) that the principal of each high school be furnished a sufficient number of competent clerks to perform the clerical work, and (b) also that the principal of each high school be definitely allowed a certain portion of the time of his teaching staff for the discharge of such administrative functions as he finds it necessary to assign to them.

¹In view of the fact that Professor Elliott recommends that the Board of Superintendents be abolished, and that a Bureau of Investigation and Appraisal be constituted in its stead, the matters in this report referred to the former Board would naturally be taken up by the latter.

IV. ADMINISTRATIVE CONTROL OF THE HIGH SCHOOL AS
IT AFFECTS INTERNAL ORGANIZATION

Summary of our findings and recommendations by topics:

(1) *The Principal and the Daily Program*

We find:

1. That the principals are responsible for the organization of recitation sections in their respective schools.
2. That some of the principals have organized large and small sections in the same term of work, each of which could have been avoided by a different distribution of pupils.
3. That the effective organization of the schools, as to number and size of sections, by the principals is directly affected by factors controlled by the Department of Education.
4. That these factors are the program (course) of studies, the size of school, the size and number of classrooms, and the number of teachers employed.

We recommend:

That a thoroughgoing investigation be undertaken of program-making by the principals. This investigation should be made by a committee of high school principals and a committee of the Board of Superintendents working together.

(2) *The Department of Education and the Program of Studies*

We raise these questions:

1. Has the Board of Superintendents considered the extent to which the larger number of curricula ("general," "commercial," "manual training,"

"") in a school increases the number of small sections, and, hence, increases the amount of teaching to be done to care for a given number of pupils?

2. Has the Board of Superintendents considered to what extent, if any, the number of electives in a curriculum increases the cost of instruction, and whether the increased cost, if any, produces commensurate educational returns?
3. Has the Board of Superintendents followed any well-conceived plan in determining the time allotments for high school subjects? Has it considered the daily program of the school in determining time allotments?

We recommend:

1. That each question raised above be the subject of an investigation by the Board of Superintendents in order to determine—
 - a. Whether, educationally and economically, there should be a single curriculum or several curricula in one high school.
 - b. Whether the number of electives increases the cost of instruction, and, if so, whether the educational results are commensurate with the increased cost.
 - c. A plan for assigning time allotments to subjects which shall take into consideration not only the educational value of each subject, but also whether it admits of making a satisfactory daily program.
2. That the courses of study and curricula be subjected to continual but gradual revision and modification by committees of high school principals and teachers, and corresponding committees of the Board of Superintendents working together.

(3) *The Department of Education and the Size of the High Schools*

We find:

1. That the high schools in New York City, in most cases, are so large that (a) it is doubtful whether the principal can discharge satisfactorily his responsibility to pupils, parents, and teachers; (b) that their very size interferes with their effective administration; (c) that an assembly of all students at one time is impossible; and (d) that general facilities, such as lunch rooms, lockers, etc., cannot be adequately provided.
2. That the system of annexes is unsatisfactory, because, among other reasons,
 - a. The opinion prevails that the teachers are inferior to those in the main building.
 - b. The teachers change often.
 - c. The teachers do relatively more teaching than in the main building, and often teach subjects other than those which they are licensed to teach.
 - d. The sections are too large, being considerably larger than sections in the main building.
 - e. The students drop out faster than in the main building.
 - f. The educational offering is not equivalent to the offering in the main building.
 - g. School spirit is lacking; teachers and pupils both prefer the main school.
 - h. The organization of the school as a whole cannot be so effective with annexes as it could be if all pupils were in one building.

We recommend:

1. That high schools hereafter established be limited to 1,500 pupils.

2. That a definite policy be adopted of establishing high schools in various parts of the city to take the place of annexes, and that additional high schools be established in accordance with that policy.
3. That a plan be adopted of establishing the different types (specialized and cosmopolitan, particularly the former) of high schools throughout the city, and that a careful study of their comparative effectiveness be made from year to year.

(4) *The Department of Education and the Size and Number of Classrooms*

We find:

1. That some small sections are the result of the principals being forced to use small rooms in the main building.
2. That some large sections are the result of the principals being forced to use large rooms, particularly in annexes; some are also the result of filling classrooms in the main building to overflowing on account of congested conditions.
3. That small sections mean expensive instruction, because the teaching reaches a comparatively small number of students.
4. That large sections often mean ineffective instruction, because the number of pupils a teacher can satisfactorily teach is limited.

We recommend:

1. That the seating capacity of classrooms be limited to the maximum standard size of section to make over-size sections impossible.

2. That in the new buildings constructed, and, as far as practicable in the buildings now in use, special study halls, seating 125 to 150 pupils, be provided, so that less time of teachers would be required in study hall supervision, and regular classrooms could be used more largely for recitation purposes.
3. That more classrooms be provided through the building of more high schools.

(5) *The Department of Education and the Number of Teachers Employed*

We find:

1. That the method of increasing or decreasing the number of teachers in a department of study does not insure the appointment of teachers where they are needed.
2. Nor does it insure the declaring of teachers "in excess" where they are not needed.
3. That, in many schools, there is not a sufficient number of teachers to maintain the standard size of section and the standard week's work for a teacher fixed by the Board of Superintendents.
4. That, in some schools, there are more teachers than would have been necessary had the size of section not been abnormally small.
5. That the blank now used in the reorganization above noted is inadequate for its purpose.

We recommend:

1. That a reorganization blank be adopted which shall furnish the following essential facts, on which the need of changing the number of teachers in a department is based:

a. Concerning the size of sections:

- (1) How many pupils are there in the department, and how are they distributed by terms of work pursued?
- (2) What is the number and size of sections by terms of work, as organized at the time of the application?
- (3) Is the size of sections, as organized, in accordance with the standards fixed by the Board of Superintendents?

b. Concerning the amount of teaching:

- (1) How many periods of teaching and other work are teachers already employed in the department doing?
- (2) How much teaching and other work is there for the additional teacher or teachers to do?
- (3) Is the number of periods of teaching now being done by teachers in the department in accord with the standard fixed by the Board of Superintendents?

V. ESTIMATING THE NUMBER OF HIGH SCHOOL
TEACHERS NEEDED—A RÉSUMÉ

(1) *Concerning the Old Blank*

The blank used in 1911 is defective in the following respects:

1. The data do not cover a sufficient period of time—only three years.
2. The blank contains non-essential and misleading data—e. g., the average number of pupils per teacher, based on the gross register and the teaching force, including persons who do not teach.

3. It contains non-comparable and unrelated data—e. g., the dates in the various tables do not correspond.
4. It does not contain any data whatever concerning the organization of the school to show whether the recitation sections are of standard size, or whether teachers already employed are teaching the standard number of periods per week.

(2) *Concerning the New Blank*

The new blank gives the net register, the number of pupils and teachers for each subject or department by school terms during a period of five years, with the per cent. of increase in net register and number of teachers during that period. In addition, the blank contains an analysis of the organization of the high school in the year of the estimate. The data showing past experience and the detailed analysis of the present organization of the high school together constitute a satisfactory basis for revealing clearly how many teachers are needed. By incorporating in the blank these essential data, on which the principal bases his estimate, the Board of Superintendents and the Board of Estimate and Apportionment are furnished with the information they must have to judge the validity of a principal's estimate.

The blank prepared by us was presented to the high school principals at a conference held at the rooms of the Committee on School inquiry on November 8, 1911. As a result of that conference, and at our request, the High School Principals' Association instructed its president to appoint a committee to coöperate with us in working out the further details of the blank. Careful consideration was given to the blank in its present form at our final meeting with the committee, and we recommend its adoption.

(3) Concerning the Use of the New Blank

To sum up :

1. The principals, the Board of Education, and the Board of Estimate and Apportionment should have a clear understanding of the purpose and method of using this blank.
2. The purpose of this blank is to provide a means of putting the estimated need of teachers by the high school principals on a basis of recorded facts.
3. After the principal has furnished the necessary data on which he makes his estimate, the responsibility for approving these estimates rests on the Board of Superintendents, and the responsibility for granting the required funds rests on the Board of Estimate and Apportionment.
4. The data and estimates must be interpreted in the light of high school conditions and needs, and not according to elementary school conditions and needs.
5. The school authorities and the Board of Estimate and Apportionment should exercise the same care in passing on the data and the estimates that has been devoted to the preparation of the data and estimates by the principals.
6. The blank should be used for a reasonable period of time; and it should be revised by the principals as experience suggests the need of revision—always, however, with a view to providing more adequately the information needed by the school authorities and the Board of Estimate and Apportionment.

If these considerations are clearly understood and agreed upon by the principals who prepare the data on the blank, by the Board of Superintendents and the Board of Edu-

cation, who are called upon to approve of the principals' estimates, and by the Board of Estimate and Apportionment, who finally approve the request for funds, the fears which have been expressed by the principals concerning the use of this blank and the data which it contains will be groundless.

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